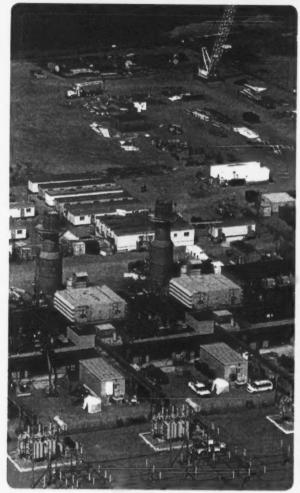
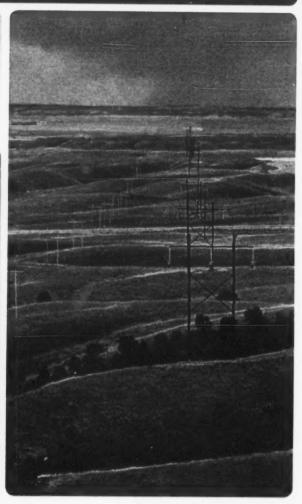
# Sustainability Report 2010









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# ► About our report

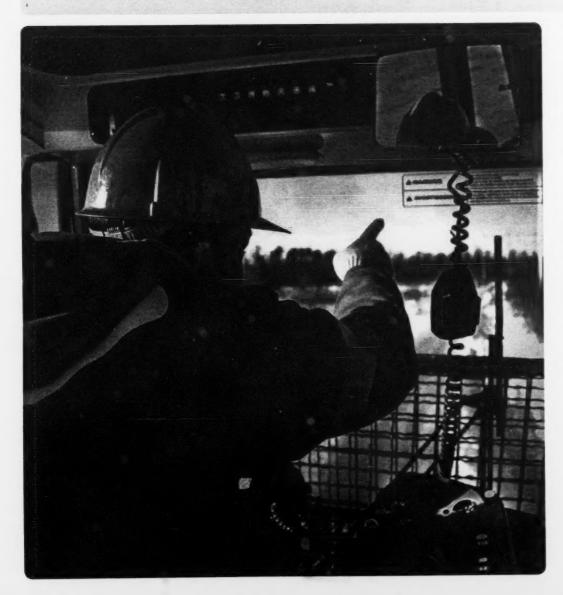
Within SaskPower's Sustainability Report, we seek to provide our stakeholders with a balanced account of SaskPower's 2010 environmental, economic and social performance. We also discuss the challenges ahead in 2011 and beyond. The report includes progress made against specific targets. As SaskPower's sustainability program develops, we will be adjusting the indicators that appear. All financial data has been extracted from our company's 2010 Annual Report, which was independently audited and tabled in the Legislative Assembly of Saskatchewan.

We invite you to view this report online and to learn more about our company by visiting saskpower.com.

### **▶** Feedback

We'd like to hear from you. Tell us what you think about our Sustainability Report or our company; email your comments to environmental\_programs@saskpower.com.

# The energy to evolve



As Saskatchewan's electric company for more than 80 years, SaskPower has come a long way from the days of assuming ownership of our first generating station and pioneering the use of a single-wire, ground-return distribution system to assist with rural electrification.

Today, we remain firmly committed to the basic philosophy of service excellence that has powered us through decades of growth. We also recognize the importance of an ongoing dedication to innovation and collaboration that has allowed us to adapt to our ever-changing world while fueling our province's progress.

And as we work to contribute to a sustainable energy future, a devotion to continuous improvement — as well as environmental, economic and social responsibility — remains more important than ever.

### Sustainability - challenge and opportunity

### ► A message to our stakeholders

When it comes to sustainability, there are many interpretations of its meaning. However, there may be no more well respected singular definition than that which emerged from the United Nations (UN) Bruntland Commission: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

That description was contained in a final UN report titled, "Our Common Future." Flash forward nearly 25 years and our company remains intensely focused on that same shared destiny. As a result, our planning and action to realize a successful mutual outcome — for all of SaskPower's stakeholders — has never been more important. And it is clear that securing affordable and dependable electricity for our customers is inseparable from strategically managing long-term economic success with environmental accountability and social responsibility.

### Adaptability as a response to change

The goal of our second Sustainability
Report is to discuss our performance in
2010, the challenges we are facing and
the solutions we are identifying. To truly
run any business sustainably means being
nimble — successfully rising to a number
of tremendous challenges and seeing them
as a chance to get better. SaskPower's

commitment to making steady progress lies at the heart of our company's mission: "Safe, reliable and sustainable power for our customers."

To make sure we're able to make good on our service promise, we must be progressive, agile and forward-looking. We must also continually assess our ability to meet targets and objectives, plan for improvement, and actively engage in honest dialogue with employees, customers and all stakeholders.

We know that when it comes to sustainability, SaskPower is travelling on a never-ending journey. That's why it is so important for us to never see sustainability as a separate program, but instead something that must be integrated into the culture and activities across our entire company. And we will be resolute in changing the things we haven't done well into those at which we excel.

# Meaningful dialogue, planning and action

Disclosure, collaboration and strategic decision-making are critical tools when it comes to stakeholder engagement. In 2010, we participated in the provincial government's Standing Committee on Crown and Central Agencies. During the hearings we presented our Electricity and Conservation Strategy, which contains our short-, medium- and long-term supply plans.

While participating in the process we benefitted from sustainability-related discussions — ranging from climate change to the affordability of electricity — with a variety of stakeholders. As we extend our supply outlook to an even longer 40 years, those viewpoints are proving valuable in looking at how we can further incorporate cleaner sources of electricity, demand side management and conservation, as well as smart grid technologies and other innovations.

As we move further on our long-term course of extensive infrastructure renewal and delivering on our sustainability agenda, no potential advancement may be more important than the outcome of SaskPower's Boundary Dam Integrated Carbon Capture and Storage Demonstration Project. Among the first commercial-scale carbon capture and storage facilities in the world, its success could allow us to extend the life of existing generating units, continue to make use of a cost-effective, locally abundant natural resource, and stimulate employment and economic development opportunities. The technologies developed would not only have a major impact on the viability of coal in our generating system, but also far-reaching effects across the globe.

"Sustainability must be integrated into everything we do so that we can develop the best possible results for SaskPower, the environment we depend on, and the people whose lives we touch."

### A holistic approach

Sustainability must be integrated into everything we do so that we can develop the best possible results for SaskPower, the environment we depend on, and the people whose lives we touch. The challenges are many, with issues such as emissions, land and water management, biodiversity, safety, employee engagement, succession planning, Aboriginal relations, debt management and rates. However, we will continue to make progress by being open to new ways of doing business and committing to heightened levels of performance.

In 2010, our company expanded energy conservation initiatives while continuing SaskPower's intensive program of grid revitalization. In addition to work on generating unit upgrades, we completed construction of the new natural gas-fired Yellowhead Power Station and multiple lines and substations. We furthered our goal of adding cleaner sources of energy by evaluating Independent Power Producer submissions to our Green Options (GO) Plan and GO Partners Program, which

could see electricity generated from wind, small hydro, heat recovery and flare gas projects. Our company also explored potential hydroelectric projects with Saskatchewan's First Nations communities.

Meanwhile, SaskPower's multi-year Service Delivery Renewal (SDR) Program is helping us meet shifting customer expectations and improve reliability. As part of SDR, we are proceeding with the development of an Advanced Metering Infrastructure (AMI) Project. Approximately 500,000 customer mechanical meters will be replaced with electronic versions that will provide near real-time operational data and information on electrical consumption. In addition to facilitating improved outage response times, the new meters will provide customers with information that will help them to make more enlightened decisions about their use of electricity.

While our company's infrastructure is important, our people are truly our greatest asset. During the year, SaskPower was recognized as one of Saskatchewan's top

places to work and one of Canada's best diversity employers. We recognize how important it is to continually enhance our workplace, especially when it comes to increasing employee engagement and providing a meaningful and safe work environment. With a high number of potential retirements on the horizon, the recruitment of skilled employees and knowledge transfer are especially critical.

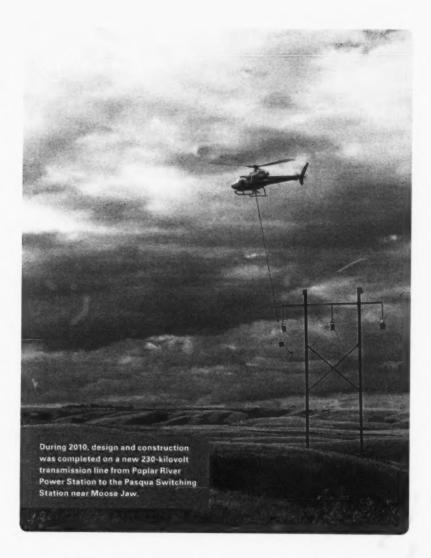
A continual strong financial performance is integral to maintaining our company's operational integrity through the current period of intensive reinvestment. Our Business Renewal Program is helping us maximize efficiencies and control costs, with a cumulative savings target of \$2 billion over a 10-year period. By becoming more cost-effective and streamlining our operations, we will be in a better position to maintain a competitive rate structure. Affordability is important in supporting Saskatchewan's overall quality of life and growth.

### A path of discovery

Our stakeholders clearly have high expectations of us. In fact, like never before we've been reaching out to our largest customers to talk about long-term plans. We have expressed our desire to make SaskPower a world-class company based on best practices. This vision extends to sustainability. In the coming years, our efforts in this area will grow while we continue to track and share our environmental, economic and social challenges and achievements.

Difficulties and setbacks are unavoidable when you have an ambitious agenda. However, SaskPower has always shown a great deal of resilience and leadership. We are confident that our employees, business partners, customers and stakeholders will all recognize that great opportunities can arise during challenging times. And we are optimistic that together we can all play a significant role in developing our province's sustainable future. As we move forward, we welcome your continuing feedback.





### ▶ About us

### Corporate profile

SaskPower is Saskatchewan's leading energy supplier. Our company traces its origins to the Saskatchewan Power Commission that was founded in 1929. In 1949, SaskPower was incorporated as a provincial Crown corporation under the authority and mandate of *The Power Corporation Act*. Today, we are defined by our commitment to support economic growth and enhance the quality of life in our province. Our corporate mission: safe, reliable and sustainable power for our customers.

SaskPower's team is made up of over 2,700 permanent full-time employees. We manage \$5.3 billion in generation, transmission and distribution assets. Our company operates three coal-fired power stations, seven hydroelectric stations, six natural gas stations and two wind facilities. Combined, they generate 3,513 megawatts (MW) of electricity. SaskPower also buys power from the SunBridge Wind Power Project,

Meridian Cogeneration Station, Cory Cogeneration Station, and NRGreen Kerrobert, Loreburn, Estlin and Alameda Heat Recovery Projects. At the end of 2010, our company's total available generation capacity was 3,982 MW.

We are responsible for more than 473,000 customers within Saskatchewan's geographic area of approximately 650,000 square kilometres. About three customers are supplied per circuit kilometre. We maintain more than 150,000 kilometres of power lines, 53 high voltage switching stations and 182 distribution substations. Our company also has interties at the Manitoba, Alberta and North Dakota borders.

SaskPower's infrastructure also includes the System Control Centre, which directs the safe and reliable operation of the power system and the Supervisory Control and Data Acquisition system that provides remote operations and control at SaskPower's facilities.

# **▶** Operating statistics

### Available generating capacity (net MW)

	2010	2009	2008	2007	2006
Coal	1,686	1,682	1,682	1,661	1,661
Gas	1,251	1,113	914	977	977
Hydro	853	853	853	853	853
Wind	172	172	172	172	172
Other	20	20	20	5	5
	3,982	3,840	3,641	3,668	3,668

### Net electricity supplied (GWh)

	2010	2009	2008	2007	2006
Coal	12,038	12,317	11,405	11,661	11,102
Gas	3,682	3,432	3,812	3,545	3,556
Hydro	3,866	2,962	4,030	4,393	4,032
Wind	507	579	574	620	573
Imports	518	440	587	316	451
Other	148	134	72	36	-
Gross electricity supplied	20,759	19,864	20,480	20,571	19,714
Line losses	(1,897)	(1,875)	(1,879)	(1,797)	(1,834)
Net electricity supplied	18,862	17,989	18,601	18,774	17,880

### Lines in service (km)

-	2010	2009	2008	2007	2006
Transmission lines	12,705	12,404	12,311	12,216	12,212
Distribution lines	137,380	137,093	136,807	136,593	136,379
	150,085	149,497	149,118	148,809	148,591

### Peak loads (net MW)

	2010	2009	2008	2007	2006
Annual peak load	3,162	3,231	3,194	2,969	2,960
Minimum load	1,636	1,561	1,664	1,583	1,510
Summer peak load	2,750	2,773	2,834	2,879	2,706

### Number of permanent full-time employees

2010	2009	2008	2007	2006
2,727	2,653	2,541	2,488	2,458

### ► Financial statistics

### Consolidated statement of income

(in millions)	2010		2009		2008		2007		2006
Revenue							2007	-	2000
Saskatchewan electricity sales \$ 1		\$	1,447	S	1,385	\$	1,356	s	1,269
Exports			12		33		57		29
Gross margin from electricity trading	1		7		17		11		15
Other revenue	163		80		54		45		40
Total revenue	1,751		1,546	1	,489		1,469		1,353
Expense			-						
Fuel and purchased power			499		573		494		498
Operating, maintenance and administration			523	430		416		360	
Depreciation and amortization	258		233	234		219		207	
Finance charges	139		149	153		167		161	
Taxes	42		39		35		35		34
Total expense	1,591	1,443		3 1,425		1,331		1,260	
Net income	\$ 160	s	103	s	64	s	138	s	93
Unrealized market value adjustments	19		(7)		30		12	-	_
Operating Income	\$ 179	\$	96	\$	94	\$	150	S	93

### 2010 available generating capacity - 3,982 MW



- Coal 43%
- ☐ Wind 4%
- Gas 31%
- ☐ Other 1%
- Hydro 21%

## ▶ 2010 highlights

For SaskPower to be successful, our business strategy requires a blend of tradition and innovation. While we must continue to leverage the approaches that have allowed us to meet our mission of providing safe, reliable and sustainable power for our customers, we are also obliged to develop new ideas and solutions to meet emerging challenges and unlock our fullest potential.

We are compelled to come together with all partners and stakeholders to identify the way to a lasting energy future. To do so, we must make courageous decisions while maintaining at the forefront of our daily work a commitment to consistent environmental, economic and social performance.

During the year, SaskPower participated in the Government of Saskatchewan's Standing Committee on Crown and Central Agencies inquiry into Saskatchewan's energy needs. In addition to also sharing our Electricity and Conservation Strategy at community meetings throughout the province, our company was active on a number of other sustainability-related fronts:

### **Environmental performance**

- SaskPower marks the 10th year of registration of our company's International Organization for Standardization (ISO) 14001 Environmental Management System.
- Mercury, sulphur dioxide (SO<sub>2</sub>), and total particulate matter (PM<sub>10</sub> and PM<sub>26</sub>) emissions and emissions intensity decreased.
- Rebuild of Boundary Dam Power Station Unit #3 announced and carbon dioxide (CO<sub>2</sub>) capture system chosen in preparation for construction of the Boundary Dam Integrated Carbon Capture and Storage Demonstration Project, among the first commercial scale ventures of its type in the world.
- Technical and business concepts completed for development of a neutral testing platform at Shand Power Station for different carbon capture and storage technologies.
- Six environmentally friendly power projects totaling 33 megawatts (MW) from Independent Power Producers (IPPs) selected under Green Options (GO) Partners Program.
- Call for participants issued for GO
   Plan for up to 175 MW of wind power.
- Over 640 projects screened for sensitive land habitat, species or archaeological sites.

- · Number of reportable spills increased.
- Approximately 45,000 wood poles tested through Wood Pole Maintenance Project.
- Approximately 115,300 tonnes of fly ash sold, equating to a savings of over 115,300 tonnes of CO<sub>2</sub>.
- SaskPower Shand Greenhouse distributes nearly 600,000 seedlings for habitat conservation and restoration.

### **Economic performance**

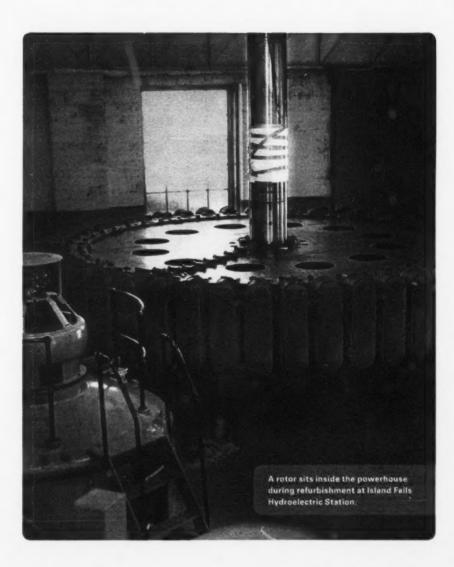
- Operating income of \$179 million and per cent debt ratio of 59.7%.
- Over \$1 billion flows from SaskPower into the province's economy through the procurement of goods and services from Saskatchewan suppliers, the purchase of coal, the acquisition of electricity from IPPs, and the payment of wages and benefits to employees.
- \$2 billion in spending to be saved or avoided by 2020 targeted by Business Renewal Program.
- \$565-million investment made in provincial electrical infrastructure.
- 138 MW gas-fired Yellowhead Power Station completed and commissioned.
- New 160-kilometre, 230-kilovolt transmission line between Poplar River Power Station and Pasqua Switching Station near Moose Jaw energized.
- Reliability System Average Interruption Duration Index (SAIDI) measured 5.9, a greater length of interruptions than the target due largely to the unusual number of severe weather events.

- Reliability System Average Interruption Frequency Index (SAIFI) measured 2.5, a greater number of interruptions than the target due to the unusual number of lightning incidents and heavy rainstorms.
- Advanced Metering Infrastructure (AMI)
   Project announced, with approximately
   500,000 new electronic meters
   expected to facilitate quicker response
   times for power outages while
   assisting customers to become
   more energy efficient.
- Net Metering Program expanded to 184 participants.
- Demand Side Management programming realizes 29 MW of demand reduction while adding a new Refrigerator Recycling Program, Parking Lot Controller Program and Self-generated Electricity Demonstration Project for Ice Rinks.

### Social performance

- SaskPower recognized as one of Saskatchewan's top 20 employers and one of Canada's best diversity employers.
- Net increase in diversity employees was 30, below target due in part to a temporary company-wide hiring review that limited the number of external hires.
- Safety Index performance target exceeded.
- Five-year Safety Strategy completed, Health and Wellness Program launched, and Corporate Drug and Alcohol Program approved.

- Implementation of Contractor Health and Safety Management Program and Policy continued.
- Energy efficiency and farm safety educational advertising campaigns continue.
- Employee retention rate of 98.5% (as compared to 84.5% average of the Hewitt Associates top 50 Canadian companies).
- Employee survey shows engagement score of 49%, a 10 percentage point improvement from 2007 results.
- Memorandum of Understanding to investigate potential hydroelectric development on Fond du Lac River entered into with Elizabeth Falls Hydro Limited Partnership, a corporate entity owned by Black Lake First Nation.
- Agreement to evaluate the feasibility of a hydroelectric project near the confluence of the North and South Saskatchewan Rivers entered into with James Smith Cree Nation, Chakastaypasin Band of the Cree, Peter Chapman First Nation, and their partner Brookfield Renewable Power.
- Over \$1.6 million invested in provincewide community (culture, sports and charities), education and environmentfocused initiatives.



# Our strategy and approach

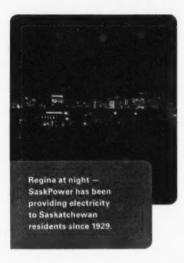


A foundation for sustainability

Engagement

## ► A foundation for sustainability

We are working to ensure our business is sustainable in every sense of the word. Our goal is to have the necessary framework, strategies and leadership in place to guide decision-making and action. Because, as Saskatchewan's primary energy supplier, we realize we have a leadership role to play to ensure sustainable power in our province for this and future generations.



Throughout SaskPower's history, our company has sought to achieve a high degree of transparency by publicly reporting on performance. As a result, the notion of accountability is front and centre in our corporate values statement. In addition to annual financial reporting, in 1995 we began distributing an Environment Report that included a number of indicators and a discussion of SaskPower's challenges and progress. Last year it was replaced by a more comprehensive document — this Sustainability Report.

Being dedicated to a program of continuous improvement is critical to our company's success. The information and data we include in our Sustainability Report regarding environmental, economic and social performance is evolving. In addition to assessing the best practices of other companies, we have sought the input of numerous stakeholders. The determination of which material issues we address in our Sustainability Report will be an ongoing process as we seek further stakeholder input, as well as analyze and measure the effectiveness of our approach.

#### SaskPower structure

Our company is governed by *The Power Corporation Act*. It is subject to the provisions of *The Crown Corporations Act*, 1993. This legislation gives the Crown Investments Corporation (CIC) of Saskatchewan — the holding company for Saskatchewan's commercial Crown corporations — broad authority to set the direction of SaskPower. In practice,

directives are normally in the following forms: CIC Crown subsidiary policies applying to all CIC Crowns; CIC Board resolutions and directives; and CIC management directives.

CIC is the sole shareholder of SaskPower and provides oversight of our company's operations. Communication is implemented through written policies and directives issued by CIC's management or its Board of Directors, as well as verbally through discussions with SaskPower's leadership. Our company reports to CIC on a regular basis on matters such as Corporate Balanced Scorecard results, financial statements and forecasts, capital expenditures and debt obligations. SaskPower also provides ad hoc reports to CIC upon request.

SaskPower submits performance management and investment decisions for review and approval by CIC and Saskatchewan's Provincial Cabinet, where required by legislation or policy directive. Through its Chair, who is an outside Director, the SaskPower Board of Directors is accountable to the Minister Responsible for Saskatchewan Power Corporation. The Minister functions as a link between SaskPower and Cabinet, as well as the provincial legislature.

The Legislative Assembly of Saskatchewan appoints members to the Standing Committee on Crown and Central Agencies at the beginning of each legislative session. This committee holds public hearings and is empowered to review the annual reports, financial statements and operations of Crown corporations and related agencies. The Minister Responsible for Saskatchewan Power Corporation and our company's senior executives are called before the committee to answer questions about the year under review and issues of topical concern.

#### Governance

The general stewardship of SaskPower is the responsibility of our company's Board of Directors. The Board is responsible for setting direction, monitoring and evaluating achievement, as well as identifying any necessary corrective action. The Board works with management to develop and approve SaskPower's Strategic and Business Plan.

Our company's Board has standing committees to assist in discharging specific areas of responsibility. In addition to being assessed by SaskPower's Executive, this Sustainability Report is submitted to the Governance/Human Resources Committee for review.

SaskPower regularly reviews the key elements of decision-making processes to ensure we continue to meet best practice standards. As a Crown corporation, SaskPower is not required to comply with Canadian Securities Administrators (CSA) Governance Guidelines. However, we use these guidelines to benchmark our governance practices. Our company's practices are substantially consistent with CSA standards. A comparative table is presented in the SaskPower 2010 Annual Report, available at saskpower.com.

# Board of Directors — as at December 31, 2010

#### Chair

· Joel Teal - Saskatoon, Saskatchewan

#### Vice-chair

• Bill Wheatley - Regina, Saskatchewan

#### Directors

- Tammy Cook-Searson La Ronge, Saskatchewan
- Ian Coutts Kindersley, Saskatchewan
- Judy Harwood Saskatoon, Saskatchewan
- Mitchell Holash Prince Albert, Saskatchewan
- Nicholas Kaufman Regina, Saskatchewan
- Bryan Leverick Saskatoon, Saskatchewan
- Mick MacBean Swift Current, Saskatchewan
- · Andy McCreath Calgary, Alberta
- Lorne Mysko Saskatoon, Saskatchewan

### Acting Corporate Secretary

- · Wendy Dean
- \* Full biographies are available at saskpower.com.



# Strategic direction

SaskPower's strategic direction guides the daily and long-term activities of the company and each employee. Articulated in detail within SaskPower's Strategic and Business Plan, the strategic direction is created with input from our employees, Executive and Board of Directors. It is aligned with the objectives of our shareholder, the Crown Investments Corporation of Saskatchewan.

#### Statements

SaskPower's corporate vision acts as a rallying point by reminding us of the ideals we are pursuing and what we want to achieve in years to come. Our mission tells us why our business exists and defines its unique purposes. Our values are the fundamental principles that guide and govern our behaviour.

#### Vision

People, innovation and partnerships . . . powering Saskatchewan to a bright future.

### Mission

Safe, reliable and sustainable power for our customers.

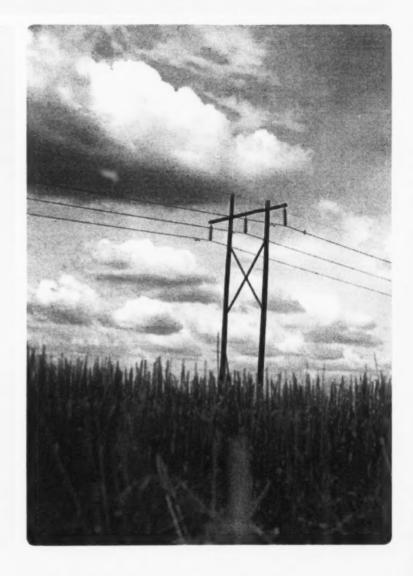
### Values

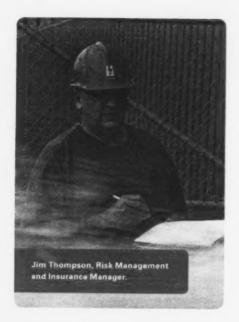
Responsive, respectful, progressive and accountable in everything we say, do and offer.

### **Priorities**

Presently we have seven separate strategic priorities that give clear operational objectives that guide us towards the achievement of our mission and vision. In the future we will further focus these priorities into three broad areas of activity: people, finance and stewardship. This will simplify communication of our Strategic Plan's fundamental intent. The priorities will not change and are:

- 1. Proud and productive employees.
- 2. Loyal and satisfied customers.
- 3. Informed and engaged stakeholders.
- 4. Dependable and secure infrastructure.
- 5. Efficient and effective operations.
- Strong environmental stewardship and performance.
- Prudent financial management and growth.





### Management systems

In addition to our company's strategic direction and various corporate policies, SaskPower has implemented internationally recognized frameworks to achieve our objectives. During the year, we marked the 10th year of registration of our company's International Organization for Standardization (ISO) 14001 Environmental Management System (EMS).

Providing SaskPower employees and contractors with a structure designed to promote continuous environmental improvement, it helps us identify, monitor and manage the impact of our business on air, land and water. We track our progress by setting specific objectives and targets that are based on regulatory, technological and financial considerations. We also take into consideration the views of customers, communities and environmental agencies.

The set of criteria that directs our EMS is established by the ISO — a nongovernmental, worldwide federation of national standards bodies that works in partnership with international organizations, governments, industry, as well as business and consumer representatives. ISO 14001 registrations are maintained through annual independent EMS audits conducted at facilities across the province. Annual internal EMS audits are also conducted by qualified SaskPower personnel.

To help ensure that all employees and contractors understand their roles, responsibilities and our EMS, SaskPower has a comprehensive Environmental Awareness Training Program. All new employees complete this course, and all employees must renew training every three years.

Our company also has a comprehensive safety strategy and Occupational Health and Safety Assessment Services (OHSAS) 18001-registered Safety Management System (SMS) to minimize workplace health and safety risks. It provides financial, human and technological resources to achieve our health and safety goals.

Policies and procedures for worker safety, including personal protective equipment, hazard and risk assessment requirements, and incident reporting to raise awareness of causes and prevention, are all components of the SMS. To ensure it is being used and maintained effectively, internal and external SMS audits are held each year to monitor for compliance to OHSAS 18001.

# Enterprise Risk Management (ERM) Program

With our company experiencing a time of significant change, SaskPower is subject to risks that could have adverse effects on our operations, assets and resources. These uncertainties are managed through

an ERM Program that is designed to continuously maximize opportunities and minimize threats.

A corporate-wide approach enables strategic, financial, operational, environmental, compliance and reputational risks to be managed and aligned with our strategic business objectives. While our philosophy is that risk management is the responsibility of all employees, the Board of Directors provides overall stewardship and defines acceptable risk tolerance.

The Board receives an annual report outlining SaskPower's top risks, how the magnitude and probability of the risks are assessed, who is responsible to manage the risks, and how these risks are mitigated. The Audit and Finance Committee of the Board annually reviews our company's risk appetite and tolerances, its risk profile, and the effectiveness of the ERM Program.

Our President and Chief Executive
Officer has ultimate accountability for
risk management and is supported by
the Executive and direct reports who
provide oversight. The Executive Risk
Management Committee (ERMC) is
chaired by the Vice-president and Chief
Financial Officer, Finance and ERM, and
provides guidance on the development
of the ERM Program and is responsible

for reviewing, monitoring, and overseeing compliance with approved financial and commodity risk exposure management policies. In addition, the ERMC is responsible for ensuring that the ERM Program is an integral part of our business strategy, planning and objective setting.

SaskPower's experienced risk professionals are responsible for ERM reporting to the Board of Directors, Audit and Finance Committee and ERMC. They participate in risk identification, analysis and reporting of risks in major projects; analyze commercial and environmental risk exposures in our assets and trading operations; as well as ensure our daily market price exposure is kept within approved risk metrics.

### Canadian Electricity Association (CEA) Sustainable Electricity (SE) Program

SaskPower, as a member of the CEA, participates in the SE Program. The CEA was founded in 1891, and today the national industry association has a membership of corporate utilities, major electrical manufacturers, corporate consulting companies and individuals.

The SE Program includes:

 A Policy for Sustainable Development -Corporate Responsibility
 CEA member utilities commit to

CEA member utilities commit to implementing the program's policy according to key guiding principles that form the basis of the program. 2. Performance indicators and reporting

Each of the policy's guiding principles is supported by specific indicators and metrics that are used to track overall industry sustainable development performance. Utilities report on performance and overall industry results on sustainable development are published in an annual report to stakeholders.

3. Public Advisory Panel

Made up of a cross-section of qualified Canadians, the panel provides independent opinion and advice to the CEA Board of Directors on the implementation of and improvements to the SE Program.

4. External verification

Implementation of the SE Program is validated by an independent external verifier.

The guiding principles of the SE Program are:

1. Environment

Minimize the adverse environmental impacts of our facilities, operations and businesses.

2. Stewardship and biodiversity

Manage the environmental resources and ecosystems that we affect to prevent or minimize loss and support recovery.

3. Climate change

Manage greenhouse gas emissions to mitigate the impact of operations on climate change, while adapting to its effects.

4. Health and safety

Provide a safe and healthy workplace for our employees and contractors.

5. Workplace

Support a fair, respectful and diverse workplace for our employees and contractors.

6. Communications and engagement

Communicate with and engage our stakeholders in a transparent and timely manner.

7. Aboriginal relations

Communicate with and engage Aboriginal people in a manner that respects their culture and traditions.

8. Economic value

Provide economic benefits to shareholders, communities and regions in which we operate.

9. Energy efficiency

Produce, deliver and use electricity in an efficient manner while promoting conservation and demand side management.

10. Security of supply

Provide electricity to customers in a safe, reliable and cost-effective manner to meet current and future needs.



# **▶** Engagement

### Stakeholder relations

Stakeholder views are essential to us making sustainable decisions at all levels of our company. Our ongoing challenges are to remain approachable, consistently reach out to constituencies and focus on creating greater understanding. As a result, SaskPower maintains ongoing dialogue with a wide variety of key stakeholders, including:

- Our shareholder, the Crown Investments Corporation/ Government of Saskatchewan.
- · Customers.
- · Employees and retirees.
- · Regulatory and financial agencies.
- · Strategic partners.
- · Business and business associations.
- · Suppliers.
- · Aboriginal communities.
- Communities and community organizations.
- · Environmental organizations.
- · Prospective employees.
- · Industry organizations and professionals.

With SaskPower facing the need to revitalize a large portion of our aging infrastructure while meeting growing electricity demand, continuing dialogue with stakeholders is essential. In 2010, we participated in the provincial government's Standing Committee on Crown and Central Agencies inquiry into Saskatchewan's

future energy needs. In addition to sharing SaskPower's new Electricity and Conservation Strategy, we also heard a diverse range of perspectives about electricity production and use.

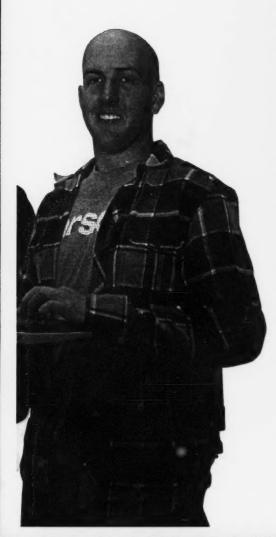
When it comes to the future supply of electricity, historically stakeholders have expressed a need for more information and transparency. As a result, during the year we also shared elements of our short-, medium- and long-term supply plan contained within the Electricity and Conservation Strategy at 22 community meetings throughout the province.

Each meeting brought together a senior SaskPower official and representatives of a community's chamber of commerce, its urban municipal government, its adjacent rural municipal government, and its surrounding federal and provincial economic development regions.

Participants who filled out response forms on average rated SaskPower highly for its performance in planning for Saskatchewan's future electricity needs.

> From left: Dana Turnbull, Project Assessment and Approvals Coordinator; Jaret Thomson, Material Handler; and Joshua Barbarin, System Operator.





### **Project consultation**

Public dialogue is essential when we are beginning work to construct new infrastructure or undertake significant upgrades to existing facilities. Commonly, SaskPower's consultation includes early contact with local officials. distribution of detailed project information. open house sessions, meetings with individuals and interest groups, media releases, advertisements, and direct correspondence and discussion. Results of public consultation are frequently included in project application and approval processes that are filed with regulators. SaskPower also tracks external inquiries in our EMS.

When engaging in project consultations, we strive to meet a number of expectations, including:

- Residents or organizations that may be impacted by a project are fully informed.
- The potential environmental impacts of the project are effectively communicated.
- The proposed monitoring programs and results are broadly understood.

- The public is involved in issue identification and problem resolution.
- Public concerns are documented and evaluated in the project proposal.
- Issues identified by people outside of the project area are addressed.
- The public consultation program and related activities are described in the project proposal.

Consultation programs in place over the last 20 years have facilitated approvals for numerous major projects. In 2010. project-related consultations included the Boundary Dam Integrated Carbon Capture and Storage Demonstration Project as well as four significant transmission projects: a proposed 230-kilovolt (kV) transmission line to service Shore Gold's diamond mine project within the Fort à la Corne Provincial Forest; a proposed 230-kV transmission line to supply a new TransCanada Corporation pumping station east of Liebenthal; a proposed 138-kV transmission line to supply a new TransCanada Corporation pumping station northeast of Pennant; and a temporary 138-kV transmission line to supply construction power to the new BHP Billiton potash mine site north of Jansen.

### Regulators

SaskPower commonly engages with regulators at the municipal, provincial and federal levels. This can occur both directly and through our participation in associations like the CEA. For SaskPower, emissions remains the regulatory issue which is most complex and with the highest profile. However, there are a host of other important matters — from fisheries to species at risk — that require ongoing discussion, policy analysis and policy development. All are discussed later in this report.

### Community relations

During 2010, SaskPower once again served on the Board of Directors of the Southeast Saskatchewan Airshed Association (SESAA), a collaborative group of industry, government, nongovernmental organizations and private citizens. The first airshed association in Saskatchewan, its mandate is to monitor ambient air quality in the southeast region of Saskatchewan.

SaskPower is also represented on the Board of Directors of the Upper Souris Watershed Planning Association (USWA), an independent, non-profit multi-stakeholder organization that has been developed to improve water quality and quantity within the watershed, as well ensure water for social, economic, environmental and cultural uses for future generations. In southeastern Saskatchewan, about 20,400 square km of the Souris River Basin are encompassed by the Upper Souris River Watershed, including sub-watershed areas of the Souris River main stem, Long Creek and Moose Mountain Creek.

When it comes to safety, we regularly communicate with contractors about policies and procedures to control workplace health and safety risks. Our company also provides customers with electrical and gas safety information through advertising campaigns, print and interactive material, public service announcements, media relations activities and face-to-face communications at trade shows and public presentations.



# Environmental performance



A framework for improvement

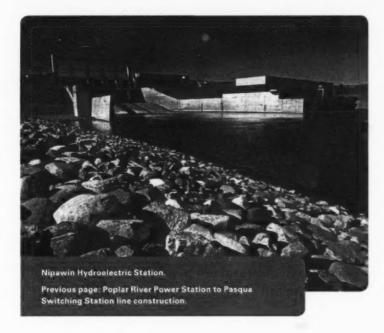
Emissions

Land and water management

Stewardship and biodiversity

### ► A framework for improvement

As demand for electricity is increasing, so are our environmental challenges. While climate change is at the forefront of our concerns, we are carefully considering all environmental impacts related to the production and use of electricity. Where appropriate, we are taking focused steps to improve our performance.



# SaskPower Environmental Policy and reporting

Our success as a company is dependent on solid environmental performance. In addition to our International Organization for Standardization (ISO) 14001
Environmental Management System (EMS), SaskPower's Environmental Policy plays a foundational role in guiding the decision making and actions of our employees and contractors.

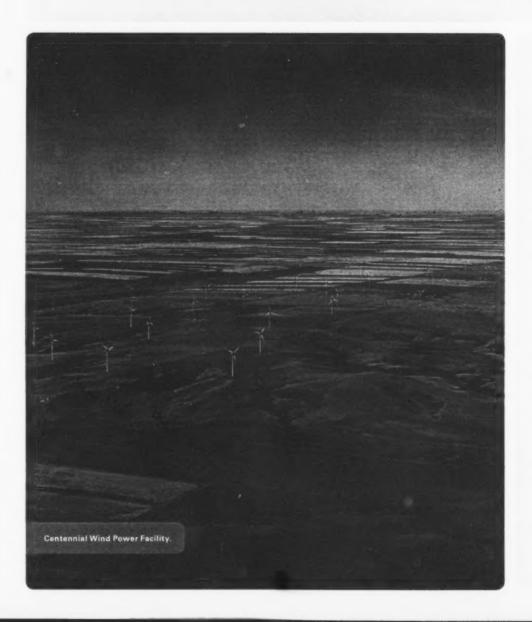
The Environmental Policy clearly articulates SaskPower's dedication to environmental responsibility, outlining our company's commitment to comply with applicable laws while pursuing continuous improvement. In accordance with SaskPower's EMS, the Environmental Policy is reviewed on an annual basis and submitted for approval by the SaskPower Executive, the Environment Occupational Health and Safety Committee and the Board of Directors. Specific objectives and targets are set based on the principles contained within the policy.

In 2010, the Environmental Policy was updated to better align with SaskPower's current Strategic and Business Plan as well as the activities and principles of the Canadian Electricity Association (CEA) Sustainable Electricity (SE) Program. Statements relating to environmental stewardship and performance, energy conservation, and biodiversity and species at risk were incorporated.

Our reporting activities also play an important role in the cycle of continuous environmental improvement:

- We report annually to our customers, shareholder and stakeholders through our Sustainability Report.
- We file data and sustainability-related information with the CEA for the organization's annual SE Program Annual Report.
- We report to various provincial and federal regulatory agencies as required under law or permit.

# SaskPower's Environmental Policy



## SaskPower is committed to strong environmental stewardship and performance through adherence to the following principles:

- Compliance with relevant environmental legislation, regulations and corporate commitments.
- 2. Prevention of pollution.
- Continual improvement of our environmental management systems and performance.

# In support of these principles, SaskPower, through our employees and those working on our behalf, will:

- Understand and fulfill our environmental roles and responsibilities.
- Identify and manage all significant environmental aspects associated with our facilities and operations so as to minimize adverse impacts.
- Avoid, reduce or control emissions or discharges that may adversely affect the environment.
- Conserve resources through efficient use and implement the fundamentals of waste management: rethink, reduce, reuse, recycle and recover.

- Encourage the conservation and responsible use of electricity.
- Audit our environmental performance regularly.
- Respect the biodiversity in areas within which we operate and work to prevent or minimize loss and support recovery.
- Communicate actively, transparently and effectively with stakeholders on environmental issues and our performance.
- Integrate environmental considerations into corporate decision-making processes.



### Regulatory work

Saskatchewan's current environmental regulatory regime — which was developed in the 1970s — is being shifted to a new results-based model. Key pieces of legislation are in the process of being modernized, including: The Environmental Assessment Act, The Forest Resources Management Act, The Environmental Management and Protection Act, and The Management and Reduction of Greenhouse Gases Act.

Development of substantial sections of The Saskatchewan Environmental Code (the Code) are required for the legislative framework to come into effect. The Saskatchewan Ministry of Environment (MoE) adopted a model for collaborative development of the Code. Overseen by a senior ministry advisor, representatives from industry, government, consultancies, academia, Aboriginal and nongovernmental organizations are developing the content. SaskPower is a member of four committees developing areas of the Code for activities that directly affect our business: Industrial Code Content Committee: Greenhouse Gases Code Content Committee; Air Management Code Content Committee: and Linear Activities Code Content Committee.

Implementation of the Code has the potential to save significant time associated with obtaining environmental permits and approvals while streamlining the environmental approval process. It will eliminate the need for permits and approvals for routine, low risk activities and set clear environmental outcomes which we must meet.

Nationally, as a member of the CEA, SaskPower has been active in providing input into policy development related to the implementation of the federal *Species at Risk Act* (SARA) and has provided input into the five-year review of the legislation. In 2010, several meetings and a workshop were held with regulators to discuss concerns and work through case studies around SARA implementation.

During the year, Environment Canada withdrew interest in pursuing amendment to the regulations associated with the Migratory Birds Convention Act.

However, SaskPower continues to participate with CEA members on working with Environment Canada on approaches to conserve migratory birds. This includes the further development of best practices and greater guidance on the application of the existing Act and associated prohibitions.

Since 2005, a committee of Fisheries and Oceans Canada (DFO), SaskPower, the Saskatchewan Watershed Authority (SWA) and Saskatchewan MoE staff have reviewed our company's facilities for compliance with the federal *Fisheries Act*, and resolved fisheries-related issues. During the year, the committee's 2009-2010 Action Plan was completed. Facility specific data was critical in enabling the committee to make the necessary decisions associated with potential operational changes.

Meanwhile, SaskPower continues its engagement with the CEA as it moves forward in developing a compliance framework with DFO under a Memorandum of Understanding. Our company is also participating with CEA members on the implementation of DFO's Existing Facilities Position Statement and Fish Mortality Position Statement, as well as on the development of the Habitat Compensation Policy. CEA members are also engaged in discussions around the review of other emerging policy issues and the Fisheries Act renewal.

### ▶ Emissions

#### Overview

Pending environmental regulation. developed in response to concerns about climate change, is expected to place significant limitations on coal-fired electrical generation beginning in 2015. To meet new regulatory requirements, it is expected our company and customers will incur increased costs to transition to lower-emitting generation sources, add emission controls to existing generating facilities and increase renewable energy capacity. With almost 50% of SaskPower's capacity fuelled by coal, how we respond to new regulations while simultaneously controlling associated costs will have a significant effect on the future of our company.

Greenhouse gas (GHG) emissions primarily carbon dioxide (CO2) from coal-fired plants - will be a focus in new environmental regulation. Also anticipated are increased requirements to further lower emissions of sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), mercury (Hg) and particulates.

SaskPower monitors the development of emissions-related regulations. In 2010, the Canadian government announced its intention to develop and implement a performance standard framework to lower the amount of CO2 that can be emitted

from coal-fired electricity generation. At SaskPower, significant work has been done to prepare for this approach through the planning of carbon capture and storage options for existing coal units.

A national initiative - the Air Quality Management System (AQMS) - is being developed to address other emissions. The new approach has three key objectives: establishment of Base Level Industrial Emission Requirements (BLIERs) for SO2 and NOx; creation of ambient air quality standards; and implementation of air management zones across Canada. SaskPower is participating in the collaborative development of the AQMS. with completion slated for 2011 and implementation expected in 2013.

During the year, the Government of Saskatchewan passed a climate change bill — The Management and Reduction of Greenhouse Gases and Adaptation to Climate Change Act. Sometime in 2012 or 2013, the province is expected to finalize its draft climate change regulations and proclaim the act. The province has indicated it will regulate GHG emissions at the provincial level through the establishment of an equivalency agreement with the federal government once matching legislation is in place.

In anticipation of pending emission regulations, in the short term SaskPower is adding more renewable energy such as wind - to the supply mix and researching ways to maximize its use. We are continuing our partnership with the Saskatchewan Research Council to investigate opportunities for renewable energy storage. In addition, our company is investing in control technologies to limit mercury emissions from the combustion of coal.



2010 electricity supplied - 20,759 GWh



■ Coal - 58%

■ Wind - 2% ■ Gas - 18% Imports - 2%

Other - 1% ■ Hydro - 19%

2010 electricity supplied by SaskPowerowned facilities - 17.665 GWh

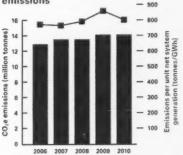


■ Coal - 69% ■ Hydro - 22%

■ Gas - 6%

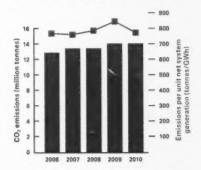
■ Wind - 3%

# Carbon dioxide equivalent (CO<sub>2</sub>e) emissions



\*Generation and emissions from SaskPower-owned facilities

### Carbon dioxide (CO<sub>2</sub>) emissions



 Generation and emissions from SaskPower-owned facilities.

### Carbon dioxide (CO<sub>2</sub>)

In 2010, SaskPower's total CO<sub>2</sub> emissions stayed the same as previous year levels despite increased electricity generation. Higher than average hydroelectric generation and increased natural gas generation allowed for lower coal-fired generation and compensated for demand growth. Increased CO<sub>2</sub> from natural gas generation offset a 2% decrease in CO<sub>2</sub> from coal generation.

During the year, overall CO<sub>2</sub> equivalent (CO<sub>2</sub>e) emissions stayed consistent with 2009 levels. CO<sub>2</sub>e is the amount of CO<sub>2</sub> emissions plus an adjustment for methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) emissions expressed in terms of the global warming potential of CO<sub>2</sub>. These emissions are primarily produced by SaskPower's coalburning Boundary Dam, Shand, and Poplar River Power Stations, and also include the emissions from the gas-fired Yellowhead, Queen Elizabeth, Meadow Lake, Landis, Success and Ermine Power Stations.

As a result of the uncertainty remaining within the current regulatory environment, SaskPower is faced with complex decisions surrounding future supply options and the use of existing infrastructure. Within the context of worldwide attention on CO<sub>2</sub> reduction, volatile natural gas prices and an abundant local supply of coal, SaskPower is interested in finding more environmentally sustainable ways to continue to use coal in electricity production.

Carbon capture and storage (CCS) has the potential to play a central role in meeting GHG reduction targets by drastically reducing our carbon footprint without sacrificing economic development and growth. CCS captures  $\mathrm{CO}_2$  emissions from large industrial facilities, such as coal-fired power stations. The  $\mathrm{CO}_2$  is transported via a pipeline and stored in underground geologic formations. In some cases, value is created for the carbon through use in enhanced oil recovery (EOR) when the  $\mathrm{CO}_2$  is injected to revive production in depleted oilfields.

The addition of carbon capture represents the largest environmental upgrade ever contemplated for coal-fired power stations in Canada. With coal currently providing the majority of the province's electricity, transformative CCS technologies would provide SaskPower with cost-competitive options for transitioning our aging and emissions-intensive coal plants into a modern low-carbon fleet. Basic capture technology has been proven through pilot projects around the world. However, full commercial-scale testing is in its infancy.

In 2010, our company announced we are proceeding with a rebuild of Unit #3 at coal-fired Boundary Dam Power Station to extend its life 30 years. It was a major step in advancing our Boundary Dam Integrated Carbon Capture and Storage Demonstration Project, a \$1.2-billion partnership involving the Government

of Canada, the Government of Saskatchewan, SaskPower and private industry which will examine CCS's economic, technical, and environmental merits.

The project proposes to fully retrofit an aging unit at Boundary Dam Power Station to be carbon capture ready and incorporate an EOR operation for initial service beginning in 2013. CO<sub>2</sub> emissions at the newly enhanced 110 megawatt (MW) Unit #3 would be reduced by 90%, or one million tonnes a year — equivalent to taking more than 250,000 vehicles off the road each year. In addition to capturing CO<sub>2</sub> for enhanced oil recovery operations, the Boundary Dam project would also capture SO<sub>2</sub> to be used in the production of sulphuric acid.

The innovative nature of the Boundary Dam Integrated Carbon Capture and Storage Demonstration Project requires partnership with technology leaders. During the year, Cansolv — a whollyowned subsidiary of Shell Global Solutions — was chosen to provide the CO<sub>2</sub> capture system and worked with SNC Lavalin to provide detailed engineering, procurement and construction services. Hitachi will supply a state-of-the-art steam turbine — the first of its kind in the world.

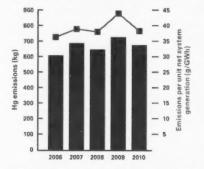
The Boundary Dam project will be the first fully-integrated carbon capture and storage system operating at a commercial-scale power plant. There are many pilot projects at other utilities around the world where relatively small amounts of CO<sub>2</sub> are captured and stored, but none at this size. SaskPower will be in a leadership position, and as a result may be able to enter into commercial, information sharing arrangements with other utilities.

In 2010, SaskPower also began development of an advanced test facility that would accelerate the commercial availability of emerging carbon capture technologies. The project would provide an avenue for technology developers to benefit from SaskPower's experience in integrated CCS systems while demonstrating the effectiveness of new capture processes. If constructed, the facility will evaluate one new technology every 12 months.

### Mercury (Ha)

Hg emissions and emissions intensity decreased in 2010, largely because of a reduction in mercury-emitting coal generation over the year and an increase in the use of other non-emitting forms of generation. During 2010, full scale activated carbon injection at Poplar River Power Station also contributed to lower Hg emissions.

### Mercury (Hg) emissions



- \* Generation and emissions from SaskPower-owned facilities.
  \*\* Does not include offsets from mercury switch agreement.
- \*\*\* Interim numbers. Final data not availble at the time of publishing.

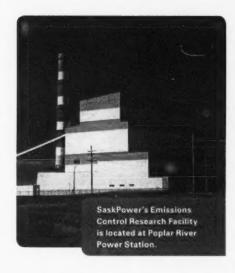
The Canada-Wide Standard (CWS) for Hg has established provincial caps on Hg emissions from coal-fired generating plants. To meet Saskatchewan's cap of 430 kg/year, SaskPower has implemented the activated carbon injection system at Poplar River Power Station while also continuing to acquire Hg offsets through a vehicle switch recovery program in partnership with General Scrap (a subsidiary of Evraz Inc.).

In 2010, 26.8 kg of Hg were recovered through the switch program with a cumulative total of 273 kg since beginning the partnership in 2003.

Poplar River Power Station's activated carbon injection system was developed at our company's Emissions Control Research Facility (ECRF) at the plant. The ECRF is the only centre of its kind in Canada where a continuous sample of real flue gas can be taken from a power station and tested. The only other option is to conduct tests in a pilot plant facility with a burner that simulates a coal-fired boiler.

The ECRF has attracted the interest of other lignite-burning utilities and suppliers of mercury-control technologies, as well as funding support from agencies in Canada and the United States. In 2010, SaskPower worked with United Statesbased National Institute of Standards and Technology to develop reference materials for sorbent trap monitoring which we plan to test at the ECRF as an alternative to our current method.

Our company has developed in-house capability for analyzing Hg in coal and ash streams, which has been recognized as being one of the most proficient for this kind of analysis. SaskPower is a leader in using continuous Hg analyzers.



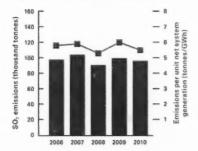
### Other emissions

In addition to focusing on reductions of .Hg and CO2, SaskPower is also researching ways to reduce SO2, NO, and particulate matter. This ongoing work is being led by our ECRF, and includes collaboration with a number of partners. These include the federal government, Saskatchewan universities, the Saskatchewan Research Council, private business, and North American electrical utilities and organizations, including the Energy & Environment Research Center (EERC).

### Sulphur dioxide (SO<sub>2</sub>)

In 2010, SO<sub>2</sub> emissions and emissions intensity decreased, largely due to reduced coal generation. Some improvements in the performance of the SO<sub>2</sub> capture system at Shand Power Station contributed to the decrease.

#### Sulphur dioxide (SO<sub>2</sub>) emissions

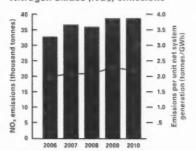


Our company is continuing to work to reduce SO<sub>2</sub> at Shand Power Station. The facility has used the Limestone Injection into the Furnace and re-Activation of Calcium (LIFAC) technology to control SO<sub>2</sub> since it began operating in 1992. LIFAC uses powdered limestone (sorbent) and water to remove SO2 emissions. This technology has not achieved its expected level of SO<sub>2</sub> control, even though it was designed for low sulphur coals such as those burned by SaskPower. In 2010, SaskPower engaged the Saskatchewan MoE and began developing a proposal to address the issue. A suggested course of action will be submitted in 2011.

### Nitrogen oxides (NO,)

NO<sub>x</sub> emission levels stayed relatively stable from 2009 to 2010, with a slight decrease in emissions intensity. By modifying

#### Nitrogen oxides (NO<sub>x</sub>) emissions



\*Generation and emissions from SaskPower-owned facilities. \*Generation and emissions from SaskPower-owned facilities.

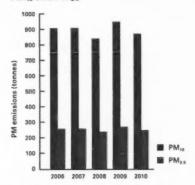
conditions under which coal is burned, SaskPower is investigating ways of achieving lower NOx emissions. Our company is currently partnering with equipment manufacturer Babcock & Wilcox and the North Dakota Industrial Commission to demonstrate a workable control system for the kind of coal that SaskPower burns.

### **Particulates**

In 2010, total particulate matter emissions and emissions intensity decreased slightly largely due to to a decrease in particulate emitting coal-fired generation.

Fly ash, the particles that would normally escape from smoke stacks when burning coal, is captured using electrostatic precipitators (ESPs), typically in the order of 96% to 99.7%. Bottom ash is either stored on-site in secure storage lagoons or dry storage facilities. Fly ash is sold for use in building materials such as concrete, helping to reduce emissions created in the production of these materials. In 2010, fly ash conditioning equipment was delivered to the ECRF and installed to determine whether the particulate collection efficiency of the ESPs at Poplar River Power Station can be further improved.

### Particulate matter (PM) -PM<sub>10</sub> and PM<sub>2.5</sub>



\* The subscript number for PM (10 or 2.5) represents the maximum diameter of the particle in micro metres (µm). One µm is a millionth of a metre.

\*\* Contains stack and fugitive particulate matter from coal plants (Boundary Dam, Shand and Poplar River Power Stations)

# Additional partnerships in research and development

SaskPower's ongoing partnerships are an important component in the search for new emissions technological developments. Our company is a member of the Canadian Clean Power Coalition (CCPC), which has a mandate to develop and advance commercially viable solutions that lower coal power plant emissions. Members of the CCPC include Canadian coal and coal-fired electricity producers, the California-based Electric Power Research Institute (EPRI), and Basin Electric Power Cooperative from North Dakota.

SaskPower is also an industry partner in the International Energy Agency (IEA) GHG Weyburn CO2 Monitoring and Storage Project. This joint research undertaking with the IEA and EnCana is conducting a world-leading international study that involves injecting and storing CO2 underground for EOR. Our company works closely with the University of Regina's International Test Centre (ITC), which develops technologies to reduce CO2 emissions. The ITC is establishing Saskatchewan as a world leader in CO<sub>2</sub>-capture technology, in part through a \$5.2-million pre-commercial scale technology demonstration plant at SaskPower's Boundary Dam Power Station.

SaskPower is a participant in the Canada Centre for Mineral and Energy Technology (CANMET) CO<sub>2</sub> Consortium. Its objective is to advance an oxyfuel process for the capture of CO<sub>2</sub>. Our company is also a member of the Lignite Energy Council, which includes utilities from North Dakota that burn coal similar in make-up to that used in our generating stations. The council supports the development of technologies that are designed to reduce emissions that result from burning coal.

## ► Land and water management

# Screenings, assessments and project approvals

SaskPower uses an internally developed Geographic Information System-based Environmental Screening System (ESS) to identify, prior to construction, any potential environmental, cultural or heritage issues of concern for proposed projects. It uses baseline environmental and archaeological information compiled from various sources, including government, private sectors and academic institutions to screen for:

- Species at risk and important habitat.
   This includes species that are either provincially or federally protected.
- Areas that may have heritage significance including archaeological sites, sites of a special nature, national and provincial historic sites, heritage properties and paleontological sites.
- Crown lands administered by the Saskatchewan MoE, the Saskatchewan Ministry of Agriculture or by federal agencies.
- Areas that have a legislated protection, such as game preserves and bird sanctuaries.



- Areas considered biologically important.
- Private lands that are either protected by conservation easements or are potentially significant habitat.
- Water bodies, rivers and streams, and wetlands.

The use of the ESS allows SaskPower to understand what may need to be done to manage environmental aspects of projects in line with regulations.

### Projects referred for secondary screening

	2010	2009	2008	2007	2006
Total projects	641	773	851	619	494

Projects referred for secondary screening are a subset of the total screened and comprised of projects where potential issues were flagged during initial screening. They may require additional fieldwork, permits, etc.

#### Site assessments

SaskPower conducts site assessments prior to the sale, purchase or lease of property, or as a result of identification of potential contamination. In 2010, 93 site assessments were carried out. The assessments may include the investigation of impacts to soil and ground water of polychlorinated biphenyls (PCBs), hydrocarbons, metals, soil sterilants and wood treatment chemicals. If necessary, SaskPower initiates site remediation after the assessment has been completed. Treatment and disposal of impacted soils are carried out on SaskPower property, or at local community landfills, registered industrial landfills or other regulatorapproved locations.

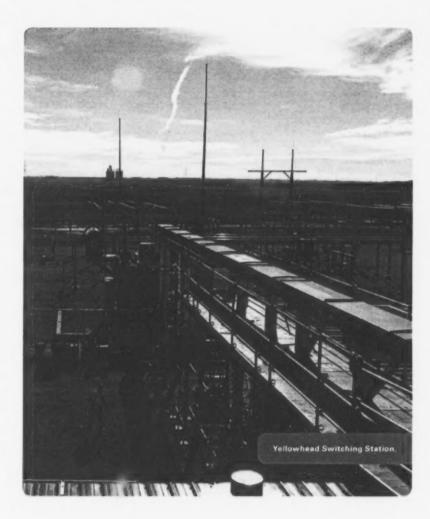
Typically, sites owned by SaskPower are cleaned up and released when they are designated as surplus by our company. Until communities were connected to the provincial transmission system in the 1980s, SaskPower operated 27 northern diesel generating stations. Following an evaluation of the former plant locations using the National Classification System for Contaminated Sites, a five-year strategy was developed. The review determined that our company needs to do more work in determining any possible adverse effects at 12 to 15 sites.

In 2010, Environmental Site Assessments were carried out at Stanley Mission, Hall Lake and Sucker River. It was discovered that further work is required at Stanley Mission. To date, six sites have been assessed, with two requiring additional work.

### **PCB** management

PCBs are synthetic chemical compounds that are fire resistant and chemically stable. They do not conduct electricity and have low volatility. While these properties made PCBs useful as insulating fluids in electrical equipment, they also made PCBs environmentally hazardous because of their resistance to chemical and biological breakdown in the environment.

Beginning in the mid 1980s, any new equipment purchased by SaskPower was free of PCBs. Meanwhile, transformers and capacitors containing high levels of PCBs were replaced. Large mineral oil transformers were tested and decontaminated if necessary. Distribution class transformers in sensitive locations were sampled and replaced if they contained greater than five parts per million (ppm) of PCBs. Currently, as equipment comes out of service, it is tested for PCBs and handled, stored and disposed of appropriately.



In 2008, Environment Canada made changes to regulations to accelerate the removal and disposal of PCBs and PCB wastes so that Canada can meet national and international commitments on use, storage and elimination. The regulations identified an end-of-use deadline of December 31, 2009, for equipment having PCBs at or above 500 milligrams(mg)/kilogram(kg) and at or above 50 mg/kg located in sensitive areas.

Although few pieces of equipment are actually expected to exceed the regulated levels of PCBs, SaskPower needed time to undertake a review of over 1,600 pieces of equipment. To facilitate this task, our company received from Environment Canada an end-of-use date extension through 2014. Under SaskPower's plan that was approved through the

extension, our company committed to reviewing all available data sources and cross referencing information (manufacturer, year, serial numbers, testability, historic samples) to identify units that may contain PCBs. By the end of 2010, SaskPower had completed 93% of this task. A plan to complete the remaining work is in progress.

#### Spills

As specified in legislation, SaskPower is required to report spills. Legislation defines a spill by type, volume and location. In 2010, SaskPower had 24 reportable spills, which was an increase from previous years. Spill causes during the year included weather-related issues, mechanical failures and procedural deficiencies. The impact of these spills was either negligible or mitigated appropriately.

### Number of reportable spills

Total spills	24	8	15	11	14
Other spills	3	3	3	1	0
PCB-contaminated oil spills (>5 ppm)	3	3	0	1	2
Oil spills	18	2	12	9	12
	2010	2009	2008	2007	2006



# Wood Pole Maintenance Project (WPMP)

There are an estimated 1.2-million treated wood poles presently in service across our province. SaskPower's WPMP is an ongoing test and treatment program that focuses on safety, reliability and environmental implications. While the project identifies those poles that have reached the end of their service life, where possible the life of poles is extended through the use of additional treatments and reinforcement. Environmental benefits from wood pole life extension range from not having to harvest new trees for wood poles to reducing the number of wood poles disposed of in municipal landfills.

In 2010, our company's WPMP entered the first year of the second cycle of testing, with 80,000 poles scheduled for testing throughout the province. Due to inclement weather and high levels of moisture throughout the year, approximately 45,000 of the poles were tested and treated for life extension. Early indications from the data suggests that the majority of our oldest poles have reached or exceeded their service life and must be replaced.

During the year, liners were placed on poles that were installed in environmentally sensitive areas and waterways. The liner encapsulates the portion of the pole in contact with the earth, reducing treatment chemical leaching to the surrounding area. The liner also keeps water and fungi at bay, protecting the pole from decaying prematurely.

# **Protecting Saskatchewan's heritage**



SaskPower Archaeological Analyst Kit
Krozser learned an important lesson in
2010. Working on the 160-km 230-kilovolt
transmission line under construction
between Poplar River Power Station and
the Pasqua Switching Station near Moose
Jaw, she arranged to have consultant
archaeologists mark tipi rings along the
project's path. It was painstaking work,
necessary to ensure construction crews
didn't damage any of the rock circles that
once held down cone-shaped animal skin
lodges.

Unfortunately, even the best-laid plans can go awry. Rugged terrain forced a contracted construction crew to leave the marked project rights-of-way. "To continue the job they decided to go around a coulee, and they drove through this site," Krozser says, indicating a cluster of tipi rings adorning a ridge roughly a kilometre east of the line. Although SaskPower had identified and recorded the site, it was not marked for avoidance because it was well outside the project rights-of-way.

With no markings on the rings and snow obscuring the ground, crew members didn't realize they were driving through a heritage site. It wasn't long before the phone started ringing and Krozser determined what had happened: rocks on several tipi rings had been damaged.

"Heritage is an important issue for our company," she says, pointing out that SaskPower always attempts to avoid sites of historical and environmental significance when building lines and facilities. "We must always be proactive so these things don't happen."

To compensate for the damage done to the tipi rings, the Saskatchewan Heritage Conservation Branch required SaskPower to map the affected rings and some unaffected ones nearby. "We had to do a little bit extra, to compensate for any data that may have been lost," she says.

It's important to preserve tipi rings, says Krozser, so they can one day be mapped out and searched for artifacts. The placement of the rocks in a tipi ring — historical analogs to modern day tent-pegs — is a window into the past for archaeologists.

"We know which direction the wind usually comes from during different seasons, so depending on where the rocks are laid out, you may be able to tell where the entrance to the tipi was and what time of year it was put up," says Krozser.

Though the damage is unfortunate, she says there is a silver lining to the situation: "When something like this happens, you

realize, 'Hey, we don't have this covered.'"
As a result of the incident, all SaskPower
contractors are now required to get explicit
permission from their SaskPower-assigned
environmental monitor and the landowner
before they leave the rights-of-way.

Krozser has also made some changes to the way she does things. "Now we know we've got to think and anticipate in advance, 'What about off rights-of-way traffic? Are they going to be able to get through there?'"

As a SaskPower employee and an archaeologist, Krozser is glad the incident is resolved and that processes are in place to guard against something like this happening again: "This is Saskatchewan's history, and that history has value."

### Zero Garbage (Zero G) Program

SaskPower's internal waste management program is known as Zero G. When it began in 1993, Zero G included only the recycling of basic items. Today, through research, development and collaboration with recycling organizations and companies, SaskPower employees are able to recycle or reuse approximately 20 different materials. As our company continues to expand its list of recyclable materials, it is also committed to finding solutions that reduce overall consumption.

The main objectives of the Zero G Program are captured in the program's five Rs: rethink, reduce, reuse, recycle and recover. To achieve employee awareness and participation, regular Zero G meetings are held at over 80 customer service centres, transmission and distribution stations, power plants and other facilities. SaskPower also provides waste management and minimization tools and resources to employees.

SaskPower's overall paper recycling increased from approximately 77,000 kg in 2009 to approximately 87,000 kg in 2010. During the year, our company recycled over 6,500 kg of both rechargeable and non-rechargeable batteries and over 14,000 fluorescent light bulbs. We also donated approximately 2,700 computers and other related electronic equipment to be reused.

There are also materials that, once they have reached the end of their lives, are difficult to salvage. However, due to the development of partnerships between SaskPower and local companies, many such materials are able to be reused or recycled. For example, in 2010 approximately 3.4 tonnes of weeping tile from the Poplar River Power Station were recycled within Saskatchewan instead of filling up local landfills.

The following is a list of materials from SaskPower facilities that, whenever possible, were diverted from landfills throughout the province in 2010:

Material	Handling process
Office	
Office paper & cardboard	Collected and recycled by local recycling facilities.
Household plastic	Recycling codes #1-7 recycled locally into parking curbs and posts.
Tin cans	Recycled locally.
Household glass	Recycled locally.
Beverage containers	Returned to SARCAN Recycling.
Ink cartridges	Donated to the thINK Food Program.
Toner cartridges	Returned to supplier.
Cell phones	Recycled by the Rechargeable Battery Recycling Corporation (RBRC).
Non-rechargeable batteries	Recycled by local recycling services companies.
Rechargeable batteries	Recycled by RBRC.
Mercury	Recycled by a local scrap dealer.
Computers & electronics	Donated to Computers for Schools, a federally funded program that
	refurbishes and donates computers to schools, libraries and non-profit
	organizations.
Operational	
Aerosol paint cans	Sent to SARCAN to be recycled through the Saskatchewan Paint
	Recycling Program.
Fluorescent bulbs	Collected by a local recycler and all materials - including glass, mercury
	phosphor and aluminum — captured and recycled.
High-pressure sodium bulbs	Collected by a recycler and all materials captured and recycled.
CFL bulbs	Collected by a recycler and all materials captured and recycled.
Waste oil, containers & filters	Transported to a Saskatchewan Association for Resource Recovery
	Corporation (SARRC) location to be recycled.
Aluminum & copper cable	Sold to scrap dealers for recycling.
Meters	Given to scrap dealers for recycling.
Wooden pallets	Reused whenever possible.
Power poles	Given away subsequent to signing of a release form.
Lead	Lead inserts from pole top insulators are removed and recycled.
Lead acid batteries	Recycled by local recycling services companies.



In 2010, SaskPower also continued to promote and augment the Zero G Program through a number of recycling awareness initiatives and waste reduction partnerships:

- · SaskPower Clean Team: This partnership between SaskPower and the Saskatchewan Association of Agricultural Societies and Exhibitions (SAASE) helps local community groups across Saskatchewan address waste management and disposal on fair grounds. Additional benefits include waste reduction at local landfills, revenues for local non-profit groups through honoraria and recycling proceeds, as well as year-round access to SaskPower recycling and refuse bins at exhibition facilities. In 2010, 32,561 bags of trash and 5,941 bags of recyclables were collected from the 27 communities that actively participate in the program.
- Saskatchewan Waste Reduction Council (SWRC): SaskPower supplies financial support to this organization, which delivers public education initiatives, particularly during Waste Reduction

Week each fall. Being on the Board of Directors allows SaskPower to contribute to the initiatives undertaken by the SWRC and helps us achieve our own strategic priority of demonstrating strong environmental stewardship and performance.

- thINK FOOD: Our company continues to join the Regina and District Food Bank in this program, which recycles ink cartridges from SaskPower's offices as part of a Canada-wide initiative. The program also raises much-needed funds for Saskatchewan food banks.
- Mercury Thermostat Recycling Program: Through the provision of drop-off locations at eight of our customer service centres, SaskPower is providing customers with a convenient means of recycling their old mercury thermostats.
- SaskPower had recycling centres made for many of our company's facilities.
   They provide employees with a central and organized location for the collection of recyclable materials, including beverage containers, household plastic and household glass.

### Fly ash

Fly ash is a fine ash that is a byproduct of burning finely pulverized coal in coal-fired stations. It is sold for use in ready-mix concrete, mine backfill, oil well cementing, road base stabilization and liquid waste stabilization applications. In 2010, approximately 115,300 tonnes were sold, equating to a savings of over 115,300 tonnes of CO<sub>2</sub>. By selling fly ash, we are offsetting the CO<sub>2</sub> produced in the course of cement manufacturing.

Construction is underway at Boundary Dam Power Station to collect fly ash for sale from Unit #6. A new load out facility is also being constructed and will include 5,000 tonnes of storage, a significant increase to the current capacity of 1,200 tonnes. This will provide us with the opportunity to build up supply during periods of low demand instead of disposing of the fly ash.

### ► Stewardship and biodiversity

### Beneficial Management Practices Manual

In 2010, SaskPower continued development of a procedures manual that will identify the routine low-risk activities of SaskPower operations staff and outline impacts and suitable mitigation measures. The manual will be designed to be userfriendly for field staff and will standardize the environmental protection measures used for construction and maintenance activities across our company.

### **Fisheries**

Since 2005, a committee of Fisheries and Oceans Canada (DFO), SaskPower, the Saskatchewan Watershed Authority (SWA) and Saskatchewan MoE staff have reviewed our company's facilities for compliance with the federal *Fisheries Act*. A major accomplishment under the agreement was the completion of a fish stranding assessment at E.B. Campbell Hydroelectric Station and a downstream aquatic assessment study.

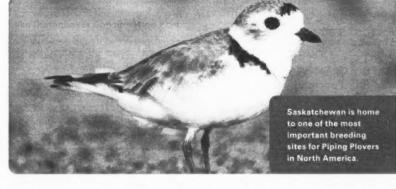
The information is being used to discuss options for reducing the impact of the facility's operations on downstream fisheries. Shutdown procedures were also developed for SaskPower's northern hydro facilities.

### Sturgeon

SaskPower is a founding member of the Saskatchewan River Sturgeon Management Board (SRSMB). The group's mandate is to prevent the further decline of lake sturgeon in the Saskatchewan River, downstream of E.B. Campbell Hydroelectric Station. In 2010, SaskPower once again provided sponsorship to the sturgeon index fishing program on the Saskatchewan River, coordinated through the Saskatchewan MoE and conducted by Cumberland House fishermen.

In 2010, a sturgeon population assessment study was completed at our Island Falls Hydroelectric Station. The data will be used to determine the state of sturgeon

populations on the Churchill River near the facility; likely impacts from the original installation of the dam; information on areas upstream and downstream that were directly affected by the dam; and the potential for mitigation and enhancement opportunities in the area should lake sturgeon become listed as an endangered species under the Species at Risk Act.

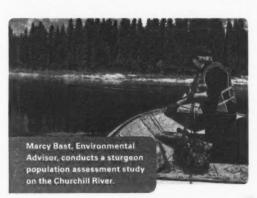


SaskPower has provided three years of funding to SWA for lake sturgeon-related research near the forks at Prince Albert. The research includes the collection of habitat, population and genetic data. The information will provide both our company and SWA with a better understanding of lake sturgeon in the region to better inform any further hydroelectric development decisions in the area.

#### Lake Diefenbaker Conservation Plan

Piping Plovers are an endangered species, with only 6,000 in the world. About one-third of the Great Plains population lives in Saskatchewan. Lake Diefenbaker — formed by the Gardiner Dam where SaskPower's Coteau Creek Power Station is located — is one of the most important breeding sites in North America.

The majority of the lake's inflow comes from mountain run-off, which means the lake is usually at its lowest point in early spring and rises until mid-July. The change in water level averages six metres. Piping Plovers typically nest on beaches and are attracted to the wide beaches normally found at Lake Diefenbaker in the spring. As water levels rise with the spring run-off, nests can be at risk of being flooded and the habitat for chicks can quickly disappear. Predators can also spot the birds more easily when the beach area is reduced due to high water levels.



In addition to being a member of the Prairie Piping Plover Recovery Team, SaskPower is one of the core partners in the Lake Diefenbaker Conservation Plan. It involves:

- Reducing the impact of high water years through water management.
- Taking measures to reduce nest predation.
- Implementing a volunteer guardianship program to reduce human disturbance.
- Reducing the impact of cattle on beach habitat.
- Moving nests in the event of imminent flooding.

During the life of the five-year plan, monitoring and research is being conducted to evaluate its effectiveness. In 2010, the annual Piping Plover census resulted in a count of 129 adults (34 pairs and 61 adult singles). Only two chicks survived until they could fly from the 61 nests monitored. There has been a declining trend in the number of nests located along the South Saskatchewan River since 2005. The decline in population may be the result of numerous years of high water levels and low reproductive output.

### **Ducks Unlimited Canada (DUC)**

Each year, SaskPower contributes approximately \$115,000 to DUC through our Diamond Legacy Sponsorship to undertake initiatives designed to support the conservation of ducks, migratory birds and their habitats. In 2010, the sponsorship was directed to four programs:

Upper Assiniboine River
 Watershed Study

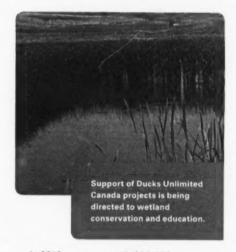
There are considerable water quality issues in the Upper Assiniboine River Watershed in southeast Saskatchewan that adversely affect residents and downstream water users. In 2010, SaskPower directed \$25,000 to support a four-year research project that will focus on quantifying the environmental, economic and social benefits of wetlands as they relate to water quality and carbon sequestration. The study will also build a business case for conserving wetlands. This year's funding was used for the purchase of field equipment (water quality monitors and flow loggers). Work will be initiated in 2011 and take place approximately 60 km southeast of Yorkton at the headwaters of the Upper Assiniboine River Watershed.

 Habitat/Wetland Restoration Program – Upper Assiniboine/Cojuring Creek

Funding provided by SaskPower helped Ducks Unlimited complete conservation easement projects with three landowners on eight quarter sections of land. This will conserve, in perpetuity, 861 acres of habitat. These conservation easements protected 97 acres of wetlands, representing 75 wetland basins and 764 acres of native uplands. Since 2005, SaskPower funding for conservation easements has assisted in the protection of over 7,595 acres of native upland and wetland habitat throughout Saskatchewan.

Saskatchewan Wetland
 Education Program

SaskPower's sponsorship of this program has allowed for the development of wetland and field resource materials for teachers and the production of interpretive material for existing DUC projects. Education contractors working in and around North Battleford, Melfort, Saskatoon, Regina, Yorkton, Swift Current and Wadena deliver handson opportunities for students to learn about Saskatchewan wetlands in their classrooms or at a nearby marsh or wetland.



In 2010, our company's \$50,000 contribution benefitted 3,499 participants. Since the program began in 1999, SaskPower funding to DUC has helped provide learning opportunities to over 64,000 children and 6,500 adults.

4. Chappell Marsh Conservation Area In 2010, SaskPower sponsorship and DUC funds were used for site improvements at the Chappell Marsh Conservation Area on the outskirts of Saskatoon. Construction of a new school bus turnaround was completed, along with layout and mowing of interpretive trails and site preparation for a new shelterbelt.

### Zebra mussels

An invasive species that can damage ecosystems, zebra mussels can also have a significant economic impact on companies like SaskPower because they can clog water intakes at coal and hydro facilities. Education, awareness and monitoring are critical steps in preventing zebra mussels from entering and spreading throughout Saskatchewan. During 2010. in partnership with the Saskatchewan MoE and Saskatchewan Invasive Species Council, SaskPower held a Zebra Mussel Awareness Workshop. In attendance were municipal water intake managers, as well as representatives from provincial and federal government departments, industry and resort communities.

#### Envirothon

SaskPower continues to support Partners for the Saskatchewan River Basin in presenting this event, which teams five high school-aged students and allows them to exercise their environmental training and problem-solving skills. The competition is centred on a current environmental issue and four universal testing categories: soils/land use, aquatic ecology, forestry and wildlife.

The Olympic-style competitive nature of some aspects of the program allows participants an opportunity to travel, learn, experience, and compete provincially and internationally.

#### Nature Saskatchewan

In 2010, our company provided sponsorship to Nature Saskatchewan to support the Stewards of Saskatchewan Program. It focuses on the conservation of prairie habitat associated with the endangered Burrowing Owl and Piping Plover, as well as the threatened Loggerhead Shrike and numerous plant species.

SaskPower's support of Nature
Saskatchewan also assists with the operation and maintenance of the Last Mountain Bird Observatory, where scientists and volunteers monitor the number and species of migrating songbirds and educational opportunities are offered to the public. In addition, funds are used for Nature Saskatchewan's PlantWatch Program. This volunteer monitoring initiative enables citizens to contribute to an understanding of how and why our natural environment is changing.



### SaskPower Shand Greenhouse

For 19 years, SaskPower Shand Greenhouse has been using waste heat from the adjacent Shand Power Station to produce and distribute seedlings for community planting programs, land reclamation, shelterbelts and wildlife habitat. In 2010, the facility distributed nearly 600,000 seedlings — the total now stands at 6.8 million since opening. A highlight of the year was the growth of over 10,000 native plant and grass seedlings for environmental projects for groups such as Grasslands National Park, Canadian Wildlife Service and First Nations University of Canada.

# Unique collaboration key to agreement



One of the first things Rick West hears when discussing SaskPower's Protocol Agreement with the federal government and provincial agencies is, "What's Fisheries and Oceans Canada (DFO) doing in Saskatchewan?" The former DFO employee — now SaskPower's Supervisor of Environmental Strategic Planning, Education and Research — is used to the question: "When I worked there, we actually had coffee cups that said, 'Yes, we know there are no oceans in Saskatchewan."

While there aren't any oceans in Saskatchewan, there are a lot of fish. And as the governing body for all fish and fish habitat within Canada, DFO is obligated to make sure the country's aquatic resources are being protected and respected. This includes monitoring any effects on fish and fish habitat resulting from the operation of SaskPower's generating facilities.

Though DFO first entered Saskatchewan about ten years ago, the Protocol Agreement got its start in 2005 when SaskPower, the Saskatchewan Watershed Authority, the Saskatchewan Ministry of Environment and DFO created a Steering Committee to implement a fishery protection process for SaskPower's facilities. In 2007, all four organizations signed the Protocol Agreement, which seeks to create an understanding of issues at these facilities and, where necessary, improve operations to reduce the affect on local fisheries.

So far, 49 potential issues have been identified with 125 separate activities undertaken to eliminate or mitigate each situation. At the moment, E.B. Campbell Hydroelectric Station, located near Nipawin in northern Saskatchewan, is the main focus. "It's our largest hydro facility, and the manner in which it's operated has an impact on Saskatchewan's largest river system," says West.

E.B. Campbell can significantly fluctuate the level downstream when releasing water during full operation. At night, when the demand for electricity is much less, the station reduces power production and the water released drops substantially. The change to downstream water levels increases the potential for fish to become stranded on previously submerged areas. However, says West, the issue will soon be rectified: "In 2011, we're going to take some equipment and basically shave the affected area down so that even under the minimum flows it stays underwater."

As one of the first Canadian power utilities to implement a Protocol Agreement like this, SaskPower's relationship with DFO has set an example for the rest of Canada. "I always call it the flagship agreement," he says. "I know DFO is hoping to model this agreement with other utilities, and we get asked a lot about it."

Some fisheries impacts resulting from the operation of SaskPower's generating facilities have been positive. Boundary Dam Reservoir, which provides cooling water for the nearby coal-fired Boundary Dam Power Station, is able to support largemouth bass thanks to heated water from the facility. With the reservoir being the only source of the species in the province, West says DFO would like to keep the situation just the way it is.

With his previous experience at DFO, West is well suited for his position as Co-chair of the committee which oversees the Protocol Agreement. His experience on both sides of fisheries issues gives him a unique insight into what makes collaborative projects like this work. "Getting support from SaskPower's Executive is one key component, and having the right personalities sitting on the Steering Committee is the second." he says. "Wiithin our Protocol Agreement, those two elements are working incredibly well."

West points out that the Protocol
Agreement has also been a learning
opportunity for DFO. "There were some
perceived issues at our facilities. After
we gathered information and took a closer
look we found they weren't really problems
at all, so we were able to pull roughly
10 discussion items off the table."

# Economic performance



An integrated strategy

Security of supply

Reliability

Energy efficiency and conservation

## ► An integrated strategy

The long-term profitability of SaskPower is essential to ensure our company is able to meet its mission of providing a safe, reliable and sustainable supply of electricity to our customers. Being financially sound will allow us to meet our environmental and social commitments at the same time as we revitalize and expand the infrastructure that powers our province. We are committed to maintaining competitive rates to support economic growth in Saskatchewan while promoting energy efficiency and conservation initiatives to help customers manage their expenses.

#### **Financial results**

In 2010, our balance sheet showed continued strength. SaskPower's consolidated operating income, net of unrealized market value adjustments, was \$179 million in 2010, an increase of \$83 million from 2009. The increase in operating income was due to higher Saskatchewan electricity sales as the result of rate increases and higher sales volumes. Operating return on equity was 10.4%, up 4.3 percentage points from the previous year and above our target of 7.9%.

During the year, SaskPower did not declare any dividends payable to our shareholder — Crown Investments
Corporation (CIC) of Saskatchewan. CIC determined that our company would not be required to pay any dividends due to SaskPower's requirement for significant capital investments — \$565 million in 2010.

#### **Financial indicators**

(in millions)	2010	2009	Change
Revenue	\$ 1,751	\$ 1,546	\$ 205
Expense	1,591	1,443	148
Net income	160	103	57
Operating income <sup>1</sup>	179	96	83
Capital expenditures	565	640	(75)
Gross long-term debt	2,782	2,571	211
Short-term advances	159	272	(113)
Return on equity <sup>2</sup>	9.3%	6.5%	2.89
Operating return on equity <sup>3</sup>	10.4%	6.1%	4.3
Per cent debt ratio <sup>4</sup>	59.7%	61.4%	(1.79

- Operating income is a non-generally accepted accounting principles (GAAP) measure, whose nearest GAAP measure
  is net income. This non-GAAP measure provides management and shareholders with a measurement of operating
  performance that is readily comparable from period to period. Refer to the non-GAAP measures section in
  SaskPower's 2010 Annual Report for further information.
- 2. Return on equity = (net income)/(average equity), where average equity = ((equity advances + retained earnings at year-end) + (equity advances + retained earnings at previous year-end)]/2.
- 3 Operating return on equity = (operating income)/(average equity).
- 4. Per cent debt ratio = (debt)/(debt + equity), where debt = (gross long-term debt + short-term advances + bank indebtedness debt retirement funds cash and cash equivalents).

#### Contribution to the economy

Because we're one of our province's largest companies, we're well aware of how necessary it is to maximize the benefits of our operations-related spending in the communities we serve. In 2010, over \$1 billion flowed from SaskPower into the provincial economy. This occurred through the payment of wages and benefits to employees; the procurement of goods and services from Saskatchewan suppliers; the purchase of coal; and the acquisition of electricity from Independent Power Producers (IPPs).

## Number of permanent full-time employees

2010	2009	2008	2007	200
2,727	2,653	2,541	2,488	2,45

Previous page: SaskPower completed construction of the new 138-megawatt Yellowhead Power Station in 2010.

## Total annual value of all employee compensation (\$ per T4s and T4As)

(in million	ns)			
2010	2009	2008	2007	2006
\$296	\$269	\$246	\$235	\$212

 Reported values are actual figures that have been included on SaskPower employee's T4 or T4A forms.
 These do not include any contractor payments made via disbursement accounting.

During the year, our company's contributions to Saskatchewan's economy also included \$19 million in grants-in-lieu of taxes payable to local governments, as well as approximately \$62 million in coal royalties, water rentals and provincial corporate capital tax payable directly to the Province of Saskatchewan. We also collected \$47 million in municipal surcharges for redistribution to 401 cities, towns and villages.

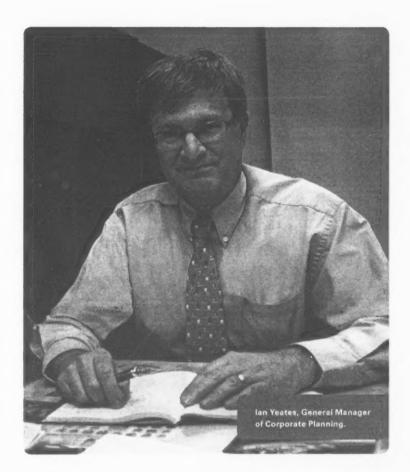
#### Payments to governments

(in millio	ns)			
2010	2009	2008	2007	2006
\$130	\$123	\$114	\$122	\$119

As per Canadian Electricity Association Sustainable Electricity Program guidelines, may include federal or provincial income taxes. GST and PST; dividends paid in lieu of taxes; debt retirement payments; payments made to a government shareholder/owner of a utility/ reality; business taxes or grants paid-in-lieu of taxes to a municipality; provincial government payments for hydroelectric or other water use rights; payments made for emission charges; fees for crown land leases or annual rental payments; and any other required payment or contribution to a government department or agency. SaskPower's Supplier Development Program works with local suppliers to develop quality assurance programs, resulting in a continual source of products and the opportunity for suppliers to expand into other markets. Our company regularly partners with regional development agencies and Aboriginal communities and organizations to hold information sessions. Existing and potential suppliers are able to learn about SaskPower's procurement requirements, processes and policies. Meanwhile, our Aboriginal Procurement Policy has a key objective of fostering and promoting business development that reflects Saskatchewan's demographics.

#### Financial reporting and forecasting

Our company has adopted new accounting standards — International Financial Reporting Standards (IFRS) — effective January 1, 2011. They replace Canadian Generally Accepted Accounting Principles. In 2010, SaskPower concluded a multi-year conversion project that included changes to select processes and systems to ensure transactions are recorded in accordance with IFRS for comparative reporting purposes on the required implementation date.





#### Rates

Because electricity plays an integral role in economic development and is fundamentally important to quality of life in Saskatchewan, our goal is to minimize the need for rate increases and keep electricity costs competitive with other Canadian thermal-based utilities. The future will be challenging, with our company facing a prolonged period of infrastructure renewal and growth.

Electricity pricing in Saskatchewan is subject to review by the Saskatchewan Rate Review Panel (SRRP) with final approval by provincial Cabinet. During the year, SaskPower submitted a 7% rate increase application effective August 1. 2010. The SRRP examined the merits of the application and proposed to the provincial Cabinet an increase of 4.5%. The SRRP's recommendation to lower the rate increase was based on an assessment of SaskPower's financial forecasts, which showed an improvement largely resulting from positive changes in fuel and purchased power costs. Cabinet approved the SRRP's recommendation, along with a number of secondary findings associated with more technical aspects of the review.

Our company measures the position of SaskPower's rate structure against thermal utility peers. The objective is to keep rates at a level no more than 10% above the national thermal utility average. This target is seen to be appropriate given SaskPower's large operating area, relatively

small population base and ongoing requirement to deal with growth and infrastructure investments. So far, results have been positive, with average rates maintained at approximately 20% below those charged by industry peers.

#### **Business Renewal Program**

As significant investments in existing infrastructure and new facilities are made, our company is evaluating opportunities to increase efficiency and effectiveness so that costs can be eliminated, controlled or avoided. This will assist SaskPower in reducing the inevitable upward pressure on rates. Embarking on an efficiency initiative was in part a response to recommendations from the SRRP during the review of our rate applications.

Our Business Renewal Program has a cumulative savings target of \$2 billion over a 10-year period. During 2010, the analysis phase of the initiative continued. This involved a full examination of all SaskPower's divisions and functions by independent third party consultants in the areas of operations, business processes and organizational benchmarking. We are evaluating all expense areas, including those associated with operating, maintenance and administration (OM&A); fuel and purchased power; and capital spending.

Using existing resources, SaskPower has established a Business Renewal Office. It is focusing on the planning,

implementation, monitoring and reporting of efficiency improvements. We have received initial reports from external consultants that reviewed a variety of expense areas and identified potential areas for savings.

## Service Delivery Renewal (SDR) Program

SaskPower's revitalization efforts extend into all facets of customer service. SDR is a multi-year initiative involving people, processes and technology that will transition our company to higher levels of service quality, productivity, efficiency and system reliability. It will also tackle the need to update or improve many of the technologies our company uses to serve customers, such as our billing system. As a result, employees will have more information to do their jobs, and improved internal processes will result in higher productivity and employee satisfaction.

During 2010, the decision was made for SaskPower to proceed with the development of an Advanced Metering Infrastructure (AMI) Project. AMI includes the replacement of our company's existing power meters with approximately 500,000 electronic meters. They will provide near real-time information on electrical consumption, as well as operational data. AMI also includes a two-way communications system network that retrieves and stores information collected by the meter. Once the new meters are installed, SaskPower will be able to more

## ► Security of supply

effectively track and pinpoint the location of power outages and respond more quickly to restore service.

Because customers will get more timely information about their power consumption through AMI, they will be in a better position to make informed choices about energy efficiency. Meters will be read daily and monthly bills will be based on actual usage. As well, SaskPower's carbon footprint will be reduced as fewer trips to customer locations will be required. Scheduled for completion in 2014, the AMI Project is expected to generate \$463 million in savings over a 20-year period.

Meanwhile, SaskPower has completed the deployment of 525 laptops loaded with mobile mapping software in field vehicles as part of the Field Worker Technology (FWT) Initiative. The laptops will accommodate new centralized dispatch and scheduling technology to optimize resources, prioritize work and minimize travel. The laptops are also capable of incorporating outage management technology that will shorten power outage durations.

In addition, SaskPower's current telephony system is undergoing a transformation, bringing together a variety of existing networks onto an internet backbone. This will help establish the critical infrastructure required for SDR initiatives such as AMI and FWT.

#### **Future planning**

In 2010, SaskPower completed participation in the provincial government's Standing Committee on Crown and Central Agencies hearing concerning our province's future energy needs. During the inquiry, our company publicly released, Powering A Sustainable Energy Future, which outlines SaskPower's Electricity and Conservation Strategy (available at saskpower.com). While discussing the challenges presented by climate change and other environmental issues, it also describes our company's extensive and ongoing system planning process.

SaskPower is facing the need to revitalize a large portion of the province's aging electrical infrastructure while meeting growing demand. Our company expects to rebuild, replace or acquire approximately 3,755 megawatts (MW) by 2033, while also continuing to expand and reinforce our transmission and distribution system.

There are two primary factors creating a requirement for new electricity generation supply sources in Saskatchewan:

#### 1. Load growth

Electrical demand is expected to increase by approximately 2.4% per year in the next 10 years. Our company must examine a variety of supply options that include alternative power generation technologies and innovative conservation programs in order to

keep pace. We must also increase transmission and distribution grid capacity to accommodate future overall load growth and ensure continued reliability.

#### 2. Aging infrastructure

SaskPower will have to rebuild or replace Saskatchewan's entire electricity generation system by 2033. As we revitalize this infrastructure, our company will need to determine the appropriate supply mix by thoroughly analyzing a range of options, including imported power from partners and power generated by renewable fuel sources. The existing transmission and distribution infrastructure is also in need of renewal. Many of the lines are in excess of 40 years old and are approaching the end of their useful life. In addition, the current capacity requirements are exceeding the original design of many existing lines.

In addition to expanding our energy conservation programs, we have also increased our planning outlook to 40 years while continuing our evaluation of future electrical supply options. Potential generation sources are assessed on service quality, affordability, environmental performance and social acceptance. We are also investigating potential hydroelectric development and partnerships with First Nations communities.



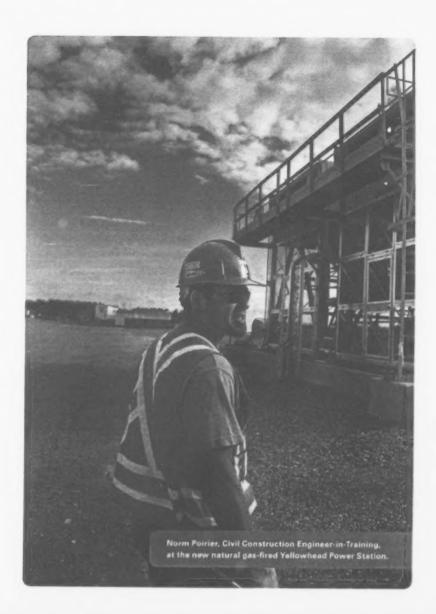
All future planning will have to take into consideration the need to meet stringent federal environmental regulations associated with air emissions and water and biodiversity issues. We see ongoing stakeholder engagement and public input as central to the successful development and execution of a well-balanced conservation, generation, transmission and distribution strategy.

Recently, we've opted for low- or nonemitting forms of generation when adding capacity or committing to new additions to our system. This includes electricity generated from natural gas and wind, as well as a host of renewable sources from IPPs. Our short-term plan, through 2015, includes:

- · Installing natural gas-fired turbines.
- Encouraging small-scale power production using renewable energy sources such as wind and biomass.
- Investigating the potential to employ carbon capture technology to reduce emissions.
- Managing electricity use through conservation, efficiency and load management programs (such as demand response).
- Developing system enhancements that will ensure the integrity of generated power being transmitted over long distances.
- Increasing the transmission capacity between SaskPower and other power generation utilities.
- Encouraging small-scale generation.

#### Capital expenditures (in millions)

Total	\$565	\$640	\$422	\$280	\$285
Other	76	50	38	27	27
Transmission & distribution	256	221	177	146	145
Generation	\$233	\$369	\$207	\$107	\$113
	2010	2009	2008	2007	2006



#### Gas-fired generation

During 2010, SaskPower commissioned the Yellowhead Power Station in North Battleford. The 138-MW natural gas-fired facility is equipped with three General Electric LM6020 simple cycle gas turbines and will be operated through fibre optic based remote control technology from Regina. As a peaking power station, Yellowhead will be brought into service when there is high demand for electricity in Saskatchewan.

SaskPower expects to add approximately 350 MW of gas-fired capacity by 2013 to strengthen the grid for the addition of more wind generation and to meet the growing demand for electricity. Over half of the new capacity will come from the 261-MW North Battleford Energy Centre, scheduled to begin operation in 2013. Northland Power, a leading IPP, has been chosen to build and operate the combinedcycle, baseload facility under the terms of a 20-year power purchase agreement. Northland has also been selected to construct an 86-MW natural gas-fired peaking power station near the Tantallon Switching Station, north of Moosomin. The facility is expected to begin operation in 2011.

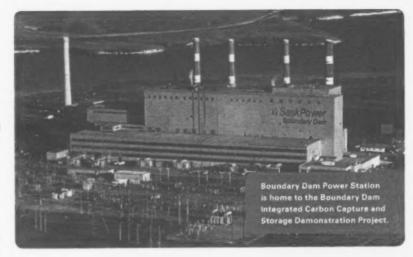
## Renewables and clean energy technologies

SaskPower has been laying the foundation for the addition of more wind power through the installation of gas units, which can act as a quick-starting backup form of supply. Through our Green Options (GO) Plan, SaskPower is undertaking a competitive solicitation to procure up to 175 MW of wind power from one or two large scale wind facilities. In 2010, we issued a call for participants and evaluated all submissions in the prequalifying phase. Interested developers were asked to demonstrate their technical and operational experience, financial capabilities and propose a site. Twenty-one companies have qualified to participate in the next phase, with selected projects expected to begin service between 2013 and 2015.

Meanwhile, the GO Partners Program will allow our company to add smaller amounts of environmentally friendly generation. Six projects from five power producers were selected, which will result in more than 33 MW of power being added to the grid through wind, small hydro, heat recovery and flare gas.

Construction has begun on the 27-MW
Red Lily Wind Project, which is being
constructed northwest of Moosomin.
Spearheaded by the Red Lily Wind Energy
Partnership, the project was initially
selected in 2006 under a solicitation to
partner with IPPs to build and operate
small-scale generation projects that
produce no new greenhouse gases
(GHGs).

Wind power will make up about 8.5% of SaskPower's total generating capacity

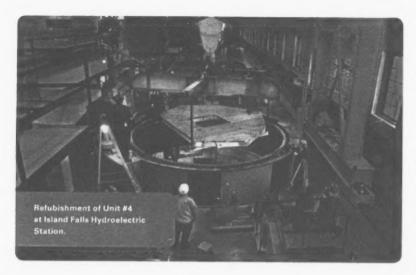


when new wind power is brought into service through the Red Lily Wind Project, the GO Plan and the GO Partners Program. The expansion of wind power will reduce our company's carbon dioxide (CO<sub>2</sub>) emissions by approximately 225,000 tonnes per year.

#### Carbon capture

Traditionally, our company has relied heavily on coal to generate electricity. It is a secure and affordable fuel source and Saskatchewan has an estimated 300-year supply. However, the future viability of coal will depend on our ability to control emissions — such as CO<sub>2</sub> — and comply with legislation and regulations.

SaskPower anticipates the Boundary Dam Integrated Carbon Capture and Storage Demonstration Project will be the first step in ensuring our company can continue to operate coal-fired power plants into the future. The initiative will help determine the technical, economic and environmental performance of carbon capture and storage technology. One of the first commercial-scale integrated carbon capture demonstration projects in the world, it will transform Unit #3 into a generator capable of producing 110 MW of clean electricity while reducing GHG emissions and producing CO<sub>2</sub> for enhanced oil recovery operations.



#### Internal efficiency

In 2010, we continued the modernization of our generating fleet. A turbine upgrade has been completed on Boundary Dam Power Station Unit #6 that increased the efficiency of the 300-MW unit. The generator rotor and transformer were also replaced, with a total actual project cost of \$20 million. Boundary Dam Power Station Unit #5 will undergo a major overhaul in 2011.

Our company is also investing \$140 million until 2015 to upgrade SaskPower hydro generating units to increase

efficiency and capacity. Site work has begun on a turbine upgrade and control system replacement on E.B. Campbell Hydroelectric Station Unit #7, with the same work scheduled to follow on Unit #8. Meanwhile, a generator rewind has begun on Coteau Creek Hydroelectric Station Unit #3. Major work at Island Falls Hydroelectric Station is scheduled for Units #4, #5 and #6 turbines, generators and controls. Engineering and procurement of equipment are in progress.

In 2010, the On-line Performance
Monitoring Project continued. It is
adding real-time coal and gas generation
efficiency and condition monitoring
software to the system, along with new
field instrumentation. During the year, the
software installation, instrumentation and
software configuration were completed for
one 300-MW unit, two 150-MW units and
one 66-MW unit. Engineering is underway
to add similar monitoring to the SaskPower
gas turbine fleet.

A Valve Leak Monitoring Demonstration Project was also completed on two 300-MW units. It will help identify and quantify energy lost due to leaking valves. The first use of this system saved energy worth over 10 times the original investment. This project will be extended to other units and further optimized in future years.

SaskPower's Rural Electrical Distribution Program is also creating efficiency gains. It moves existing overhead lines in farm fields to road allowances and is based on the need to replace aging infrastructure, increase system efficiency, and release system capacity through reduction of electrical losses. During the year, our company was able to remove from the system: 1,444 poles greater than 30 years

of age, 288 butt treated poles that are at or beyond end-of-life, and 477 nine-metre poles which are increasingly becoming a safety concern. By upgrading lines under this program, in 2010 savings of 656 kilowatts (kW) of peak demand savings and 5,745 megawatt hours of energy savings were achieved.

Meanwhile, electrical savings of 32,211 kilowatt hours (kWh) were gained at a number of SaskPower field buildings during the year by replacing incandescent lamps with new compact fluorescent bulbs or light emitting diodes (LEDs). As well, savings of 345 kWh were gained from the installation of energy misers on vending machines, coolers and snack machines at some of our company's locations.

#### **Grid losses monitoring**

In 2003, SaskPower began an initiative to monitor grid losses on our company's bulk electric system. At that time, it was identified that four strategic points on the system needed to be maintained in a tight band to reduce the overall losses of our company's grid system. In addition, it was recognized that a further seven non-generation points would have to be monitored and kept below certain voltage levels because of grid restrictions in those areas of the province.

As a result, the voltages at these key points are monitored at all hours. If any one of these has a voltage not within the predetermined bands or is exceeding its upper limit, the overall grid losses are increased and the bulk electric system is not optimized. Prior to implementing the Voltage Loss Monitoring Program, the performance of the system operators was monitored for four months and became the baseline for any future grid loss optimization.

## Voltage Loss Monitoring Program (savings in MWh [% optimized])

2010	7,770 (88.7%)
2009	7,794 (89.0%)
2008	7,763 (88.6%)
2007	7,555 (86.2%)
2006	7,170 (82.1%)

#### Small scale generation

SaskPower's Net Metering Program allows customers who generate their own electricity to feed excess power back into our company's system and bank credits for up to one year to offset future electricity use. Only environmentally friendly technologies are eligible, including wind, solar, low impact hydro, biomass, flare gas and heat recovery.

The initiative offers a maximum \$35,000 rebate for residents who wish to participate, with a maximum of \$10,000 of the total coming from SaskPower and \$25,000 from the Saskatchewan Ministry of Environment. In order to accommodate net metering, a bi-directional or net meter is installed by our company. There were 184 participants at the end of 2010 — a growth of nearly 240% from 2009 — with a total capacity of 1.1 MW.

In addition to the Net Metering Program, SaskPower continues to offer a Small Power Producers Program. It applies to wind- and solar-powered facilities as well as other viable generating sources that are a maximum of 100 kW in size and are used to offset the electricity that would otherwise be purchased from SaskPower. Under the Small Power Producers Program, SaskPower will purchase excess energy at the marginal price for that electricity. At the close of 2010, there were a total of five customers in the program with a total capacity of 328 kW. Our company will continue offering this program in 2011.

#### Alternative Farm Energy Solaror Wind-Powered Livestock Water Pumping Incentive Program

This initiative offers a grant equal to 50% of the cost above \$500, to a maximum of \$500, toward the purchase and installation of a solar- or wind-powered water pumping system for farm livestock. This assists producers who would otherwise have to run power lines to remote wells, dug-outs or streams. In 2010, SaskPower spent \$50,665 on solar and wind grants.



### **▶** Reliability

#### GreenPower

SaskPower GreenPower is an optional electricity product providing customers with the opportunity to support the development of EcoLogo-certified renewable energy in Saskatchewan. Introduced in 2002, GreenPower is supported by individuals, small businesses and large businesses from all parts of the province.

The IPP-operated 11-MW SunBridge Wind Power Project and SaskPower-owned 11-MW Cypress Wind Power Facility supply GreenPower. Because customers have now exhausted our GreenPower supply, we have temporarily stopped taking new applications for the program while it is being assessed.

## Transmission and distribution infrastructure

The Reliability System Average Interruption Duration Index (SAIDI) is used to track SaskPower's performance in responding to outages. It measures the average service interruption length in hours from a customer's point of view. In 2010, the SAIDI measured a greater length of interruptions than the target. This was due largely to the unusual number of severe weather events, which resulted in a higher than expected number of unplanned outages. To improve our SAIDI performance, SaskPower focuses on a number of initiatives, including the Rural Electrical Distribution Program, Wood Pole Replacement Program and Vegetation Management Program. These initiatives are designed to reduce outages that are considered controllable.

#### Reliability System Average Interruption Duration Index (SAIDI)

	2009	2010	2011	2012	2013
Target	3.4	4.1	4.1	4.0	3.9
Actual	4.5	5.9			

The Reliability System Average Interruption Frequency Index (SAIFI) is used to track the overall performance of SaskPower's distribution system. It measures the average service interruption frequency from a customer's point of view. The SAIFI measured a greater number of interruptions than the 2010 target due to the unusual number of lightning incidents and heavy rainstorms that contributed to an increased number of unplanned outages.

#### Reliability System Average Interruption Frequency Index (SAIFI)

	2009	2010	2011	2012	2013
Target	1.6	1.8	1.8	1.7	1.7
Actual	1.0	2.5			

In order to improve the reliability of SaskPower's transmission and distribution system, during the year our company undertook a number of initiatives. In addition to completing the design and construction of the 230-kilovolt Poplar River to Pasqua Transmission Line, required additions and upgrades associated with the 160-km project were also finished at the two terminating switching stations at Poplar River Power Station and the Pasqua Switching Station located east of Moose Jaw.

This new line is helping deliver the additional power resulting from the recent refurbishment of the generators at Poplar River Power Station. It reinforces the high voltage transmission system in the southcentral area of the province, as well as improves the overall power system

reliability for Saskatchewan. The line also lowers our operating costs by reducing power losses.

In 2010, we also completed construction of switching station and transmission facilities to accommodate the delivery of energy from the new Yellowhead Power Station. In addition, we are working on the design or construction of a number of new transmission lines to supply industrial customers: TransCanada Corporation facilities at Whitewood, Chaplin, Stewart Valley, Belle Plaine and Liebenthal: Enbridge facilities at Benson; Agrium facilities near Vanscoy; BHP Billiton facilities near Jansen; Mosaic facilities at Belle Plaine; Consumers' Co-operative Refinery at Regina; and Enbridge facilities at Steelman.

SaskPower is also preparing for increased demand from oilfield activity in the area northeast of Estevan and southeast of Lampman by increasing the capacity at the existing Steelman Substation and constructing a new transmission line from the existing Boundary Dam Switching Station to the Steelman Substation.

Meanwhile, we have completed construction of a new \$7 million substation to support growing demand for electricity in the Weyburn area.

During the year, our company continued to replace aging infrastructure while at the same time reducing safety risk. Under the Farmyard Power Line Relocation Program, our company will pay 75% of the cost to bury or relocate overhead power lines in farmyards. Customers are responsible for the remaining 25%, up to a maximum contribution of \$2,000. This initiative was fully subscribed into 2010 and a waiting list was created for 2011.

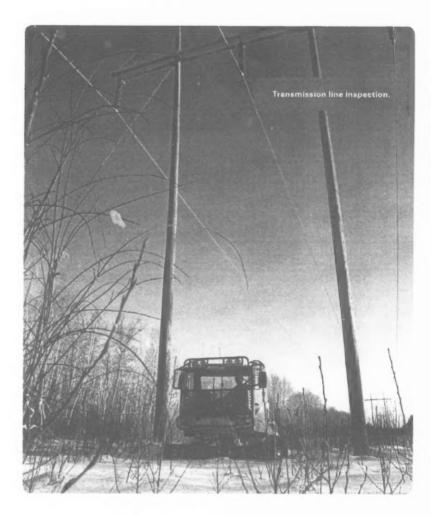
#### Vegetation management

Our company maintains vegetation along all power line rights-of-way in order to ensure safe and reliable operation. These rights-of-way can vary in width from 10 to 70 metres. As a result of our Vegetation Management Program, we reduce the possibility of branches or limbs falling across a line during a storm, which can cause damage and interrupt electrical service. In forested areas, if trees come in contact with high voltage lines, they could cause forest fires.

In order to promote the development of low-growing vegetation, SaskPower uses integrated vegetation management practices. Integrated vegetation management combines an understanding of plant ecology with a wide range of management tools to manage vegetation in an effective, economical and environmentally responsible manner.

SaskPower's Vegetation Management Policy ensures that vegetation will be managed in a manner that:

- · Incorporates ecological principles.
- · Considers community values in establishing standards of maintenance.
- · Receives landowner consent.
- · Is cost-effective.
- · Uses herbicides responsibly.
- · Complies with SaskPower's Environmental Policy, as well as all relevant federal and provincial legislation and municipal bylaws.



## Keeping the lines of service hazard-free



At any moment, a tree could contact a transmission or distribution line and cause a power outage, create a safety hazard, or start a fire. To manage these risks, SaskPower has enlisted Doug Campbell for the newly created position of Forester within the Transmission and Distribution (T&D) business unit. At the moment, Campbell is working on the development and implementation of a comprehensive Vegetation Management Program for T&D's assets.

Says Campbell: "Part of the reason I was hired was that SaskPower recognizes we need to take a harder look at vegetation management and improve it." Currently, T&D regions and transmission groups manage vegetation in their individual portion of the network, using their own procedures. In the future, Campbell would like to see a long-term province-wide vegetation management plan in place, with documentation of any work that's been completed.

He says this won't be done overnight and to be successful it will require collaboration with field staff currently involved in vegetation management. But, before plans are made, SaskPower needs to compile an accurate log of vegetation around T&D assets and how lines are being impacted.

"Having a good inventory is very important because you don't just want to know something is growing there," says Campbell. "You want to have a sense of what kind of vegetation it is, how tall it is and how quickly it grows."

There are a number of different ways vegetation information can be collected:

- Light Detection and Ranging (LIDAR) — a form of airborne radar — can map locations and heights of towers, power lines and trees along rights-of-ways.
- Aerial photographs can be taken along rights-of-ways, with tree species, tree heights, average size and general ecological characteristics interpreted and the information captured on inventory maps.
- General vegetation maps can be prepared from satellite images.
- Ground-based vegetation surveys can be used to collect detailed information at representative sample plots, which is then run through a statistical analysis to predict vegetation characteristics along an entire line.

Once the overall inventory is complete, SaskPower will assign a risk level to each line and begin a targeted and accelerated program to catch up on required work. The goal is to have a vegetation management planning framework in place for all T&D assets by 2012.

There are three main ways to handle vegetation, says Campbell: mechanical clearing and trimming; replacing one type of vegetation with a more suitable species; and the use of herbicides. While larger scale mechanical methods are used in rural and forested areas, trimming is preferable in urban areas.

The use of herbicides can be an effective and cost-effective vegetation control method. However, in all instances there must be landowner approval and herbicide application must be carefully planned and managed. In addition, a number of company standards as well as provincial and federal regulatory requirements must be met.

He says that when complete, SaskPower's Vegetation Management Program won't be based on one solution. Instead, it will involve preparing targeted prescriptions based on the variety of vegetation present, how the adjacent land is being used, environment considerations, and the type of SaskPower asset that is present.

"We've got some pretty exciting, challenging stuff to do," Campbell concludes.

## Inter-utility transmission interconnections

SaskPower operates as part of the larger North American power system through our transmission interconnections with Manitoba, Alberta and North Dakota. Aside from facilitating the opportunities to purchase energy when prices outside of the province are low or sell into higherpriced markets, the interconnections benefit our company in other ways. They give us access to generation that we can purchase to meet unanticipated capacity shortfalls. The interconnections also allow SaskPower to maintain service through disturbances caused by the unexpected loss of large generating units within the province.

## Real-time monitoring of grid transmission operation

Through a centralized computer-based system, SaskPower staff monitor the performance of the provincial transmission grid in real time. This allows them to make necessary adjustments to the operation of the grid, including starting up and shutting off generators to balance against the system load as it changes throughout the day.

Real-time monitoring ensures the system is always operating in a secure and reliable manner and allows for the response to emerging situations. All of our company's high voltage switching stations are remotely monitored and controlled. If transmission lines or apparatuses trip out because of lightning or other events. these disturbances show up on the control system and the system operators can take action to attempt to re-energize the equipment. This minimizes the disturbance to customers. In the event of permanent equipment damage, staff can be called out to investigate and make required repairs, potentially reconfiguring the operation of the grid to facilitate restoration of service if the damaged equipment remains out of service.

## Bulk electric system reliability standards

Because of our inter-utility interconnections, disturbances in the Saskatchewan system can affect parties outside of the province. Conversely, disturbances originating outside of Saskatchewan can result in the disruption of service to customers here. Given this risk, utilities recognize the benefits of planning and operating their systems to an agreed set of standards to attempt to avoid or minimize large-scale disturbances.

The North American Electric Reliability Corporation (NERC) is an industry-led organization that develops reliability standards for the planning and operation of the interconnected electric system. Mandatory compliance with NERC reliability standards is enforced in the United States by the Federal Energy Regulatory Commission. In Canada, all of the interconnected provinces have a process to support adoption of NERC reliability standards.

SaskPower has made a corporate commitment to adopt applicable NERC reliability standards for the planning and operation of our bulk electric system. In 2010, SaskPower established the Saskatchewan Electric Reliability Authority to facilitate this goal. It will provide a process for adopting reliability standards for use in the province. It will also monitor compliance with adopted standards.

#### **Emergency preparedness**

Our company has an ongoing Business
Continuity Management Program that
includes emergency response plans and
trained responders at all power stations.
SaskPower's Transmission and Distribution
business unit has developed severe
weather and widespread damage response
plans and procedures. These plans are
being improved and further integrated.

In 2010, SaskPower adopted a corporate Dam Safety Policy in accordance with the Dam Safety Guidelines published by the Canadian Dam Association (CDA). The CDA guidelines require the development of Emergency Preparedness and Response Plans (EPRPs) to reduce the potential consequences from a dam failure.

Prior to the adoption of the corporate Dam Safety Policy, EPRPs were developed in 2007 for the Nipawin Hydroelectric Station and E.B. Campbell Hydroelectric Station dams. These EPRPs are currently being updated.

EPRPs for the cooling reservoir dams at Boundary Dam Power Station and Poplar River Power Station are being developed with completion planned for early 2012. EPRPs for the Island Falls Hydroelectric Station and the ash lagoon facilities at Boundary Dam Power Station and Poplar River Power Station are also planned for completion in 2012.

### ► Energy efficiency and conservation

#### **Demand Side Management (DSM)**

DSM includes energy efficiency, conservation and demand response programs. By working closely with customers to reduce and adjust electricity use, growing energy needs and costs can be mitigated. Overall, it is estimated that 10-15% of energy savings can be expected from the industrial market, 50-60% from the commercial market, 30-35% from the residential market and up to 10% from customer self-generation with renewables.

In 2010, delivery of DSM programs resulted in total accumulated demand savings of 29 MW and energy savings of 55 gigawatt hours. It's expected that our company's energy efficiency programming is still on track to deliver 100 MW of electricity savings by the end of 2017.

SaskPower offers a wide range of energy efficiency, load management and conservation programs to help customers make informed decisions about what they can do to reduce electricity consumption. Additional DSM programs are being developed for introduction in 2011. Our current initiatives include:

 Energy Performance Contracting (EPC) Program

During the year, SaskPower and Honeywell signed a five-year contract to continue their alliance to deliver EPC, which assists commercial and institutional customers in reducing energy-related operating costs through audits and efficiency upgrades. Over the past 10 years, EPC projects have upgraded more than 200 facilities in Saskatchewan, including schools, commercial and government buildings, health facilities, and SaskPower's own facilities in Regina. To date, the projects underway realize combined annual customer utility savings of more than \$5.2 million and save over 3,200 megawatt hours of electricity each year.

In 2010, St. Joseph's Hospital in Estevan signed an EPC contract for energy efficiency upgrades valued at approximately \$500,000. Ventilation and lighting enhancements will save nearly \$50,000 each year in energy costs and help reduce GHG emissions. In east-central Saskatchewan, the

Sunrise Health Region is spending an additional \$6.1 million during Phase II of an agreement with our company to provide energy efficient upgrades to 17 health care facilities.

2. Demand Response Program

SaskPower's Demand Response
Program — targeted at our large
industrial customers — provides an
option for load reductions when the
province is experiencing high demand
for electricity, at times of system
constraint, or when it provides an
economic benefit for our company.
Participants are provided financial
compensation for shifting their
electricity demand.

3. Geothermal and Self-Generated Renewable Power Loan Program

Through this program, SaskPower provides low-interest loans to Saskatchewan's residential and farm customers who choose to install a geothermal heating and cooling system or a renewable power system. Eligible customers can receive a loan ranging from \$1,000 to \$50,000.

 Geothermal Rebate Program for Commercial Customers

Administered by the Saskatchewan Research Council, this program offers rebates to business and farm customers who install a geothermal system in a newly constructed building or retrofit an existing building. Eligible businesses can receive a 15% rebate on the cost of a geothermal system to a maximum of \$100,000.

5. Commercial Lighting Program

Through this program, commercial businesses can access premium efficient fluorescent T8 lighting at standard T8 lighting costs when purchased through 11 participating lighting distributors.

6. Parking Lot Controller Program

This initiative offers a \$50 per parking stall incentive when controllers are installed at electrified parking lots. Parking lot controllers regulate the flow to electricity outlets based on the outside temperature.

#### 7. Municipal Ice Rink Program

This program is designed to help municipal ice rink operators reduce energy costs. It includes comprehensive energy assessment and retrofit services and assists municipalities in accessing existing provincial and federal funding and grant programs.

#### Energy Efficiency for New Homes Rebate Program

Offered in partnership with SaskEnergy, SaskPower and GO Green Saskatchewan, this program offers a rebate to residents who purchase a new home that is ENERGY STAR®-qualified, R-2000-or EnerGuide 80-certified and want to install a geothermal system.

#### 9. Refrigerator Recycling Program

In 2010, SaskPower introduced this initiative as a pilot program, offering \$50 and free pick-up for fridges 15 years or older. Fridges manufactured prior to 1995 use approximately twice as much electricity as newer models. The program exceeded its target by collecting more than 1,500 fridges, and will be expanded in 2011.

#### 10. Lighting Program

During the year, our company partnered with retailers across Saskatchewan to offer a series of rebate and exchange programs to encourage the use of energy-efficient devices. SaskPower also continued its Seasonal Light Exchange, with customers able to exchange incandescent light bulb strings for light emitting diode (LED) strings that use about 70% less electricity.

Additionally, we once again offered the Halogen Floor Lamp Exchange. Customers were encouraged to bring in their inefficient standing halogen floor lamps to one of the participating retailers and receive a discount on the purchase of selected ENERGY STAR® qualified light fixtures.

In 2010, SaskPower also launched a demonstration project to explore the economic and environmental benefits of self-generated power projects at municipal ice rinks. Wind turbines will be installed at four community rinks, with monitoring for three to five years.



## Recycling program exceeds expectations



It didn't take long for SaskPower's new Refrigerator Recycling Program to hit capacity, after an overwhelming response from customers. Debuting in 2010, the pilot program offered Saskatchewan residents in Regina, Saskatoon, Weyburn, Swift Current and Prince Albert \$50 for their old, energy inefficient fridges. A private program partner was responsible for picking up and recycling the appliances.

"It far exceeded my expectations," says Rebecca Fiissel, Residential Program Leader in SaskPower's Demand Side Management Department. While the original goal was to collect 1,000 fridges between June 1 and August 31, she says there had already been 1,500 requests by the third week of the program. In light of the overwhelming level of interest, SaskPower and Envirotec reassessed the number of refrigerators they could accept.

"We quickly started implementing the contingency plans that had been developed and looked at all sorts of different options to try to make sure we were serving as many customers as we possibly could," says Fiissel.

Extra crews and trucks were hired to maximize the number of fridges collected. Pickups were also extended

into September, resulting in an additional 500 fridges being recycled through the program. By removing 1,500 inefficient fridges, the province will save over 1,000,000 kilowatt hours, which is enough electricity to power approximately 120 homes for a year.

Fiissel says media attention was responsible for much of the interest. Articles in Saskatchewan's major newspapers and frequent mentions on radio stations were all factors in the program's success. "Once the press release went out we started getting over a hundred calls a day. We were actually able to reduce the amount of paid advertising we had planned since we received so much attention," she says. "The provincial media really took it and ran with it."

Education, says Fiissel, is the key to getting people thinking about how to improve energy inefficiency right in their own homes. It's estimated a 20-year-old fridge uses approximately \$100 of electricity per year. On the other hand, electricity costs to operate a brand new fridge are approximately 50% lower.

For those residents who missed out on the pilot, Fiissel offers reassurance. The Fridge Recycling Program is undergoing an evaluation and a multi-year plan is being developed that includes expansion in 2011. One of the chief concerns to be addressed is how to respond to the need to collect higher volumes of fridges.

"The vast majority of our customers were really, really excited that SaskPower decided to invest in a program like this," says Fiissel. "The pilot was a huge success, not only in the number of refrigerators collected but in the amount of information we were able to gather. We really learned a lot of lessons that we'll be able to use to make this program even better in the future."

A multimedia campaign promoted the Refrigerator Recycling Program.

# Social performance



Safety and wellness

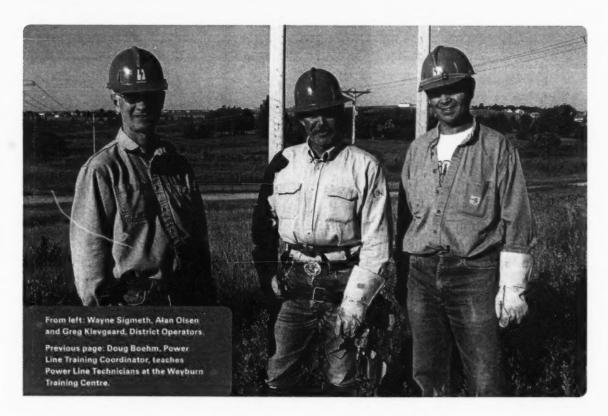
Workplace and diversity

Aboriginal relations

Corporate citizenship

### ► Safety and wellness

We believe that nothing is more important than the health, safety and well-being of SaskPower's employees, contractors and the public. We are committed to giving employees the training and tools to do their work safely, while encouraging our contractors to be equally diligent. We are cultivating an accountable work culture, while taking safety messages externally to our customers to ensure their well-being around electricity.



#### Approach

Our health and safety efforts are led by a Corporate Safety Department, which provides a central body of expertise and resources. It is responsible for facilitating the development, implementation, administration and maintenance of SaskPower's safety strategy, General Health and Safety Policy, and Safety Management System (SMS). The department also sets objectives and targets for SaskPower's safety performance.

## SaskPower's Safety Policy

#### Our beliefs

- Health and safety are an integral part of every job.
- 2. We can conduct our business without injury.
- 3. All incidents are preventable.

#### Our vision

Making safety as important as anything we do and a part of everything we do.

In pursuit of our goal of zero incidents, we shall:

- Actively prevent incidents and injuries and improve safety performance.
- Improve our Safety Management System on a continual basis.
- Comply with occupational health and safety legislation and corporate commitments.

SaskPower is committed to the health, safety and well-being of its employees, contractors and everyone exposed to our facilities. We are all responsible for protecting the health and safety of ourselves and others.





#### Occupational Health and Safety Assessment Series (OHSAS) 18001 Safety Management System (SMS)

Our company's SMS provides information to minimize health and safety risks. It also provides financial, human and technological resources to achieve our health and safety goals. The policies and standards of the SMS set the framework for meeting our commitments and keeping our employees, contractors and the public safe.

As part of our registration under the OHSAS 18001 standard, an international standard intended to help organizations control occupational health and safety risks, SaskPower has a comprehensive safety strategy to control workplace health and safety risks. Policies and procedures for worker safety, including personal protective equipment, hazard and risk assessment requirements, and incident reporting to raise awareness of causes and prevention, are all components of the SMS.

Internal and external SMS audits are held each year to monitor for compliance to OHSAS 18001 and ensure the SMS is being used and maintained effectively. Corrective and preventive actions are taken to eliminate the cause of detected nonconformities or other undesirable situations found as a result of an audit. Corrective action is taken to prevent recurrence, whereas preventive action is taken to prevent occurrence.

Cross-functional committees — our Safety Council, Safety Network and local OH&S committees — tie together the overall health and safety activities, deal with corporate-wide issues, share best practices, and use the expertise of health and safety professionals throughout our company to advance our objective of preventing all injuries.

#### **Programming**

In recent years, our company's safety record has improved. However, continual improvement in safety processes and practices is essential for the well-being of our workforce. In 2010, our company had a Safety Index of 1.8 which exceeded the target of 2.5. The Safety Index is a measure that evaluates how well SaskPower is performing in relation to safety targets. A lower score indicates better performance.

#### Safety Index

	2009	2010	2011	2012	2013
Target	3.0	2.5	2.3	2.0	1.5
Actual	1.7	1.8			

SaskPower's lost-time injury frequency rate for the year was 1.45, up from 2009. The lost time injury frequency rate is a corporate-wide indicator that calculates the number of lost-time injuries, normalized in relation to the total number of employee work hours in the injured worker's department. The normalization is done based on a standard formula created by the Canadian Electricity Association (CEA).

#### Lost-time injury frequency rate

2010	2009	2008	2007	2006
1.45	1.18	1.30	1.59	1.61

The lost-time injury severity rate measures the number of calendar days lost due to lost time injuries, normalized according to the total number of employee work hours in the injured worker's department. The normalization is also done based on a standard formula designed by the CEA.

#### Lost-time injury severity rate

		1 20.0.11		
2010	2009	2008	2007	2006
43.72	13.55	29.40	47.77	58.26

In 2010, SaskPower completed our five-year Safety Strategy. Closing off the strategy means our company now has safety programming comparable to peer utilities. During the year, we initiated a

Vehicle Recovery Program and Arc Flash Standards. SaskPower also joined the Mission Zero Initiative, which is designed to lower workplace injury rates. It is promoted through Safe Saskatchewan and the Saskatchewan Workers' Compensation Board. In 2011, SaskPower will focus on programming related to ergonomics, hand safety and same-level falls, as these three areas are having the greatest impact on our company's safety performance.

Our company is also continuing implementation of the Contractor Health and Safety Management Program and Policy. Its goal is to make sure all contractors perform work safely — on SaskPower work sites and in the company's facilities — and in accordance with all laws, rules and standards in effect.

During the year, SaskPower also launched a corporate Health and Wellness Program for employees and held the first corporate-wide Health and Wellness Challenge. In addition, our company received final approval of a corporate Drug and Alcohol Program, which will be implemented in 2011. Its objective is to prevent safety incidents, respond consistently to situations involving drugs and/or alcohol in the workplace, and assist employees who may be dealing with drug and alcohol use or abuse.

#### Public safety awareness

Each year, SaskPower undertakes extensive public education initiatives to inform the public about ways to work safely around electricity. In part as a result of these educational efforts, in 2010 public line side fatalities were again zero. This measurement tracks fatalities that occur as a result of contact with SaskPower lines or electrical equipment by people who are not employees or contractors.

#### **Public line side fatalities**

2010	2009	2008	2007	2006
0	0	1	2	0

During the year, we carried out an awareness campaign targeted at construction business owners to inform them of safe work practices near power lines and electrical equipment. SaskPower also ran two farm safety campaigns — one during spring seeding and one during fall harvest — to remind farmers of electrical safety risks and what to do if they contact a power line or come across a downed line.

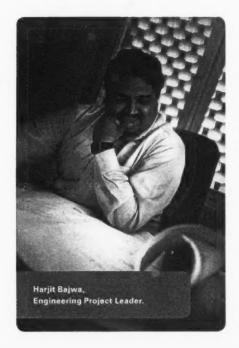
Research following the spring campaign indicated high overall awareness of power line safety on the farm, as well as strong recall of past power line safety messages. The study also suggested that behaviour change would likely be influenced more effectively with more involved methods

of communication, such as face-toface interactions. As such, SaskPower continued to use a live electrical display with actual power equipment to demonstrate electrical hazards on the farm at agriculture-themed trade shows across Saskatchewan.

Through our company's Gas and Electrical Inspections Division, SaskPower provides permits and inspections to ensure the safe installation and operation of gas and electrical equipment. Each fall and winter, SaskPower runs safety campaigns to inform the public about the safe use and maintenance of gas appliances and propane heating equipment. Throughout the year, SaskPower gas and electrical inspectors have regular face-to-face contact with homeowners and industrial audiences through the inspections process. During these visits, members of the public receive information about the safe use of electricity and gas.

In partnership with the Saskatchewan Safety Council, SaskPower also promotes safety to children through the PowerPac Program. Its specially trained teen ambassadors spoke to more than 32,000 students in 2010 about safety in and around the home.

## ► Workplace and diversity



#### **Human resources**

In 2010, SaskPower was named one of Saskatchewan's top 20 employers. However, it is becoming increasingly challenging to ensure our company has the people it needs to drive our achievements. Within the next 10 years, our company could see over 30% of SaskPower employees retire. Meanwhile, in the next five to seven years, over half of our senior leadership will be eligible to retire.

This means succession planning and knowledge transfer will be crucial, along with employee recruitment and retention. In 2010, our company began development of a new five-year Workforce Plan. It will integrate with our existing sourcing strategies and provide the types of skills and positions we need moving into the future.

In Saskatchewan, the competition for employees has perhaps never been more considerable. While electricians, industrial mechanics, power line technicians, engineers and electrical engineering technologists will be in high demand for our company as retirements increase, so

too will the services of other professionals and specialists. Enhanced sourcing efforts, such as an increase in the use of social media and a redesigned careers site on saskpower.com, have led to an increase in high quality applications.

In 2010, SaskPower had an employee retention rate of 98.5% (compared to the 84.5% average of the Hewitt Associates top 50 Canadian companies). Retention is being aided by company-wide employee growth and development initiatives. These include career planning and supervisory development workshops. In our Transmission and Distribution business unit, a new Workplace Learning and Performance Department has been established. It is developing a workforce planning, skills development and knowledge transfer area, as well as managing the apprentice program for line trades.

#### Engagement

In 2010, SaskPower conducted another employee engagement survey which generated a 74% response rate. Employees with a high level of engagement generally say positive things about their company, want to stay at their company, and strive to do their best work so their company succeeds. The most recent survey showed a corporate engagement score of 49%. Although this is slightly below target, it is a 10 percentage point improvement from the 2007 result.

#### Employee engagement score (%)

	2009	2010	2011	2012	2013
Target	50.0	55.0	54.0	59.0	65.0
Actual		49.0			

 Denotes that actuals or targets were not available or reported for that time period.

In response to specific survey feedback, supervisory and communication skillsbased training is continuing and being enhanced.

## People strategy undergoes constant evolution



David Gwilliam says workforce planning isn't just about skills but also demographics. Like a car company running ads during Saturday night hockey games, his department is constantly looking for the best way to present its job postings and reach specific audiences. The Supervisor of Recruitment says that positioning SaskPower as an employer of choice is an important aspect of the company's overall people strategy.

When it comes to workforce planning, he points out that it's all about inputs and outputs — balancing the number of retirements to the number of new hires. Pointing to a set of graphs on his desk, Gwilliam explains the art of predicting the future of SaskPower's workforce.

"You have people leaving for retirement, you have people that will leave to do other things, and then you have to account for any growth that will require us to hire more people," he says. "These numbers are just the beginning."

While SaskPower has over 700 different job types, these can be divided into a variety of groupings that result in roughly 40 different job families. Once retirements and the possibility of resignations and company growth are all balanced out, the Recruitment Department has a good idea of how many positions it's going to need to fill in each job family.

All of these positions are vital to SaskPower's continued success. That being said, some are more challenging to recruit for than others. Power line technicians, electricians, power engineers, engineers, industrial mechanics and electrical engineering technologists are all particularly important to the company's continued ability to produce power.

"When you look at all of these positions, SaskPower has six key skill sets that are going to see a high level of retirements, are extremely important for the company, and are in very high demand in the open market," says Gwilliam. "We have battle plans for each of those skill sets."

However, those six areas of specialty aren't the only ones that require a strategic approach. There are also a variety of key roles within the company that only require a handful of employees. "We have specialized positions that, in pure numbers, don't look like they're going to be a challenge. But if those two or three people leave, it could result in a huge impact on that area," he says.

While SaskPower has been doing workforce planning like this for many years, the rapidly-evolving nature of the electrical industry could make recruitment even more challenging in the coming years. As a result, a new five-year Workforce Plan is currently being developed that takes into consideration expected changes.

For example, the Recruitment Department has been hard at work trying to understand how specific issues, like Saskatchewan's recent economic prosperity, are going to affect SaskPower's hiring needs. "More people coming to the province means more customers, resulting in more load growth that is creating more work," says Gwilliam. "Instead of just saying, 'We need more people' we want to find out exactly what kind of skill sets we're going to require and how many more of those types of specialists."

SaskPower's business units are working on their own individual five-year Workforce Plans, which will provide an assessment of their needs and key challenges for the near future. Says Gwilliam: "Once they're done, we'll combine each of their plans with our work and morph it into the larger company-wide five-year Workforce Plan that captures it all."



#### Diversity

SaskPower has established an objective of having a workforce that is representative of Saskatchewan's population. In 2010, SaskPower was recognized as one of Canada's Best Diversity employers for the second consecutive year. The diversity award is part of Canada's top 100 employers project. Our company was recognized for tracking the progress of diversity-related initiatives through regular reporting to senior management and for revising our company's training materials to include a diversity-in-the-workplace component for supervisors.

A diverse employee base is a key part of our company's strategy to attract and retain a productive workforce. During 2010, 71 diversity employees were hired, offset by 41 diversity employees leaving the organization. The actual result was below target for the year due in part to the temporary company-wide hiring review that limited the number of external hires and reduced the opportunity to hire additional diversity candidates.

Of our total workforce, 39% of permanent employees belong to one of four equity groups — Aboriginal employees; employees with disabilities; visible minorities; and women in non-traditional roles. SaskPower's Diversity Department oversees and provides guidance and direction to the activities of the joint union/management Diversity Committee.

The committee acts as an umbrella for internal affinity groups — the Aboriginal Employees Network, the Network of Employees for Disabilities, the Visible Minorities Network and the Women's Resource Group. The overarching goal of the Diversity Committee and the four affinity groups is to ensure SaskPower is recognized as the employer of choice within the respective communities and our company is reflective of the community it serves.

As part of an annual Diversity Week at SaskPower, a one-day conference was held aimed at senior leaders, human resources professionals, and hiring managers and supervisors across our company. During the year, the conference addressed how microinequities manifest themselves in the workplace and the impact they have on employees belonging to equity groups. The topic was addressed from the perspectives of three people — a refugee, an educator on anti-oppressive practices, and a person of First Nations descent.

In 2010, SaskPower worked closely with the Network of Employees for Disabilities to host a conference open to managers, supervisors and employees of Government of Saskatchewan Crown corporations and provincial ministries. The purpose was to begin dialogue surrounding the potential creation of an organization that represents employees with disabilities working for the provincial government and Crowns.

Net increase in diversity employees (#)

	2009	2010	2011	2012	2013
Target	80	85	60	65	70
Actual	110	30			

Net increase in diversity employees is a measure of the number of employees hired during the year from one of the four designated target groups (Aboriginal people, visible minorities, persons with disabilities and women in non-traditional roles) offset by those diversity employees leaving the organization.

### ► Aboriginal relations

#### **Outreach and partnerships**

Our company is working to develop mutually beneficial business relationships with Aboriginal communities, support economic development in the North and promote communication in response to social, economic and environmental issues of shared concern to Aboriginal communities and SaskPower. We are also seeking to develop mutually beneficial business relationships with Aboriginal communities by supporting economic development activities.

In 2010, SaskPower entered into a Memorandum of Understanding (MOU) with Elizabeth Falls Hydro Limited Partnership, a corporate entity owned by Black Lake First Nation. The intent is to investigate the feasibility of a hydroelectric power project at Elizabeth Falls on the Fond du lac River. As part of the MOU, SaskPower is overseeing environmental and engineering feasibility studies.

Meanwhile, our company has entered into a Feasibility Study agreement (FSA) with James Smith Cree Nation; Chakastaypasin Band of the Cree; Peter Chapman First Nation; and their partner Brookfield Renewable Power. It allows for a study of the feasibility of the 250-megawatt Pehonan Hydroelectric Power Project, which would be located near the confluence of the North and South Saskatchewan Rivers.

The Aboriginal population is one of the fastest growing segments in our province, and will represent an important source of future employees for our company. As a result, SaskPower is providing employment, contracting, and other opportunities for First Nations and Métis people, businesses and communities. Our company has developed a partnership with the Saskatchewan Indian Institute of Technologies to provide employment opportunities at SaskPower for students, where they can gain valuable handson work experience in our information technology business area.

Each year, SaskPower partners with hundreds of non-profit organizations through our Corporate Contributions Programs. SaskPower's goal is to annually provide 15% of its available sponsorship budget to Aboriginal organizations in the priority areas of community, education and environment. This allocation is based on the percentage of Aboriginal people within the province's general population.

In 2010, SaskPower partnered with a number of Aboriginal and Métis organizations, including: the 2010 First Nations Winter Games; Federation of Saskatchewan Indian Nations (FSIN) Science Festivals; FSIN 2010 Circle of Honour Awards; File Hills Qu'Appelle Tribal Council Treaty Four Gathering; National Aboriginal Day celebrations throughout the province; Métis Nation of Saskatchewan; Back to Batoche; Prince Albert Métis Fall Festival; and the Pahkisimon Nuye-Ah Library System Northern Reading Program.

#### **NorthStart**

SaskPower assumed operation of the Island Falls Hydroelectric Station in 1985. With its acquisition, our company sought to build a better relationship with residents of Sandy Bay. In 1997, the International Brotherhood of Electrical Workers Local 2067 and the people of Sandy Bay formed a partnership — NorthStart. The goal of the program — the first of its kind in North America — was to increase employment and open doors for more career options for residents of the area.

The intention was that as incumbent employees retired or moved on, local employees who had been trained through NorthStart would move into these positions. The goal at the time of the agreement was to have all permanent plant maintenance and operations employees of the hydro station eventually headquartered or living in Sandy Bay.

At the time NorthStart began, 13 Sandy Bay residents worked at the station. Today, a total of 22 Aboriginal Sandy Bay residents are employed under this agreement.



## ► Corporate citizenship

#### Staying connected to customers

In order to enrich the communities we serve, SaskPower provides annual support to registered charities and not-for-profit organizations across the province. These contributions fund and support hundreds of events, activities and initiatives — as well as select capital projects — and contribute to quality of life in Saskatchewan.

#### Annual charitable donations

2010	2009	2008	2007	2006
\$1,652,099	\$1,545,974	\$1,486,953	\$1,428,270	\$1,382,882

Contributions are provided based on the following categories, with support also directed to some diversityrelated initiatives:

## Community (culture, sports and charities)

In 2010, SaskPower sponsored 128 events and programs throughout the province. Sponsorships were in a variety of areas: culture (art, dance, literature, music, theatre and film organizations, and community festivals); sports (amateur organizations); charities (non-profit and charitable organizations whose primary purpose is to raise funds for a cause that is not represented in any other category); and associations of professionals (business associations such as chambers of commerce, and professional associations such as the Association of Professional Engineers and Geoscientists of Saskatchewan).

#### 2. Education

In total, 28 sponsor-partnerships were forged in 2010. SaskPower was a presenting sponsor of the Skills Canada Saskatchewan competition, and we continued our partnerships with the Saskatchewan Institute of Applied Science and Technology, the University of Saskatchewan and the University of Regina.

#### 3. Environment

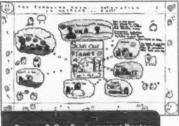
Some of SaskPower's 18 partnerships in the environment portfolio included: Saskatchewan Waste Reduction Council; Saskatchewan Environmental Society's Destination Conservation Saskatchewan Program; Nature Saskatchewan's Plant Watch Program; Stewards of Saskatchewan; Nature Conservancy of Canada; Saskatchewan Natural History Society; Saskatchewan Parks and Recreation; and Ducks Unlimited Canada.

SaskPower's Shand Greenhouse also engaged in outreach activities throughout the year. Educational programming includes the Energy & Our Environment Poster Contest, which encourages elementary school students to create posters that demonstrate how we all can take action in response to climate change. Meanwhile, the Energy and Our Environment ecoClips Video Challenge challenges senior high school students to make a video exploring environmental, social and political issues related to energy production and consumption. Through these initiatives and regular school tours, the greenhouse reached an estimated 1,700 students in 2010.









Energy & Our Environment Poster Contest winning entries

## Employee generosity to community rewarded



SaskPower's participation in the United Way of Regina campaign just keeps getting bigger and bigger. And all this hard work is getting noticed, with the company awarded the 2010 United Way Spirit Award for Commitment. The honour is given to the organization which has a United Way campaign that exceeds all expectations in the Regina area.

"It's good to be acknowledged for everyone's hard work and generosity," says Angie Owens, Communications Services Coordinator, who has served as SaskPower's Campaign Coordinator in the Regina area for the last four years. She says that since accepting her current role, she's noticed a definite upward trend in the amount of money employees donate. However, she was pleasantly surprised by the groundswell of support the campaign received.

"We kicked butt in 2010," says Owens.
"I actually spent hours checking the numbers, because I didn't think there was any way we could have collected so much so soon." Though United Way assigned SaskPower a goal of \$160,000, including the company's matching portion almost \$196,000 was raised.

While Owens accepted the award at a luncheon, she says it's SaskPower's employees who deserve the credit.

"They are extremely supportive.
Participation is high, not just in Regina, but throughout the province," she says.

In 2010, Owens' team consisted of 46 canvassers throughout SaskPower's Regina locations. "They basically just do their own thing, because they know their areas well and what will work and what won't work," says Owens.

While volunteers usually operate autonomously, they still look to her for guidance on their canvassing efforts. During a United Way campaign, it's not unusual for Owens to find 50 emails in her inbox when she arrives in the morning: "If people need something or have questions, I just need to make sure I'm always available."

Employee volunteers come up with a variety of fun ways to raise money. Selling snacks and tickets for "dress-down days" — permits to wear casual clothes on a day other than Friday — are just a few of the ways employees have raised money over the years.

While Owens is mainly responsible for SaskPower's Regina campaign, she also assists the company's other United Way fundraising efforts in Estevan, Prince Albert, Weyburn, Saskatoon and North Battleford. When all donations were counted, SaskPower surpassed its corporate-wide goal of raising \$345,800, with the total amount of donations collected being \$371,251.

Owens says she's learned not to be too surprised by the generosity of employees. In 2010, the average donation collected in Regina was over a hundred dollars. "I think it's successful because everyone can relate to the United Way and the local agencies that fall under its umbrella."

Money donated to the United Way is spent locally in the locations where it was collected. A variety of agencies benefitted from SaskPower's Regina efforts, including the YWCA, the YMCA, and a number of women's shelters and mental health programs.

With 2010 being such a successful year, Owens is confident that 2011 will see SaskPower continue its tradition of giving: "Seeing the commitment from employees and the increase in donations every year is really exciting."

### **▶** Glossary

#### Biomass

Energy resources derived from organic matter. These include wood, agricultural waste and other living-cell material that can be burned to produce heat energy.

#### Capacity

In the electric power industry, capacity has two meanings. System capacity is the maximum power capability of a system. Equipment capacity is the maximum power capability of a piece of equipment.

#### Capacity factor

The ratio of the electrical energy produced by a generating unit for the period of time considered to the electrical energy that could have been produced at continuous full power operation during the same period.

#### Carbon capture and storage

Technology which can help reduce carbon dioxide (CO<sub>2</sub>) emissions by capturing carbon from conventional fossil fuels, typically at power plants, and storing it in geological reservoirs deep underground.

#### Carbon dioxide equivalent (CO2e)

A unit of measurement used to calculate the impact of the various gases involved in climate change.

#### Cogeneration

Simultaneous production of heat energy and electrical power from the same fuel in the same facility. The use of waste heat (as in steam) from an industrial process to produce electricity or the use of steam or hot water from electric power generation as a heating source.

#### Compact fluorescent light (CFL)

Energy-saving light bulbs which last longer and use less energy than traditional incandescent light bulbs while providing the same level of light intensity.

#### Demand

The rate at which electric energy is delivered at a given instant or averaged over a period of time. It is measured in kilowatts, megawatts, etc.

#### Distribution

Process of moving electric energy at lower voltages from major substations to customers.

#### EcoLogo

Launched by the Canadian Federal Government, EcoLogo is North America's oldest environment standard and certification organization.

#### Electrostatic precipitator (ESP)

A device for removing particles of ash, dust, smoke and other elements from air and gas flows.

## Environmental Management System (EMS)

Part of an overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing and implementing an environmental policy and managing environmental aspects.

#### Fly ash

Fine powder resulting from the combustion of pulverized coal used in many coal-fired generating stations.

#### Fossil-based generation

Includes coal- and natural gas-fired generation of electricity.

#### Gigawatt hour (GWh)

A unit of bulk energy; 1,000,000 kilowatt hours.

#### GreenPower

An EcoLogo-certified product offered by SaskPower that provides customers with the opportunity to purchase blocks of electricity produced from renewable resources.

#### Greenhouse gas (GHG)

Naturally occurring gases such as  $CO_2$ , methane ( $CH_4$ ) and nitrous oxide ( $N_2O$ ) that trap heat in the earth's lower atmosphere.

#### ISO 14001

A standard that defines the elements of a sound environmental management system. The ISO 14000 Series is a family of environmental management standards developed by the International Organization for Standardization (ISO).

#### Kilowatt hour (kWh)

A unit of bulk energy; 1,000 watt hours. The measurement is generally used for billing residential customers.

#### Light emitting diode (LED)

A solid-state semiconductor device that converts electrical energy directly into light.

#### Lignite

A low-grade coal, intermediate between peat and bituminous, lignite has the lowest energy content among the various grades.

#### Load

The amount of electric power or energy consumed by a particular customer or group of customers.

#### Megawatt (MW)

A unit of bulk power; 1,000 kilowatts. The output of a commercial generator or power station is usually expressed in megawatts.

#### **Net metering**

The offsetting of electrical consumption by a customer against the same customer's production of electricity, typically from a small scale renewable energy source such as wind or solar.

#### NERC

Formed in 1968, the North American Electric Reliability Corporation's mission is to ensure that the bulk electric system in North America is reliable, adequate and secure.

#### **OHSAS 18001**

A standard that defines the elements of a sound occupational health and safety management system.

#### Offsets

Initiatives designed to reduce net emissions from the burning of fossil fuels. Offsets are carried out independently of the source emissions.

#### **Oxyfuel process**

Combustion in the presence of oxygen, which results in a flue gas containing almost exclusively water and CO<sub>2</sub>.

#### Particulate matter

Emissions of ash particles from the burning of fossil fuels.

## Peak load demand or peak energy demand

The maximum amount of electric power or energy consumed by a particular customer or group of customers at a precise time.

#### Polychlorinated biphenyls (PCBs)

A group of organic compounds that were once used as cooling and insulating fluids in various types of electrical equipment, including transformers and capacitors.

#### Safety Management System (SMS)

The structure, resources, practices and processes used to implement health and safety policies and minimize risks.

#### Transmission

Process of moving electric power in bulk at higher voltages from the source of supply to distribution centres.



## System map

## (as at December 31, 2010) AVAILABLE GENERATION

- HYDROELECTRIC (net capacity)
- 1. Athabasca Hydroelectric System 23 MW
- Wellington (5 MW)
- Waterloo (8 MW)
- · Charlot River (10 MW)
- 2. Island Falls Hydroelectric Station 101 MW
- 4. Nipawin Hydroelectric Station 255 MW
- 5. E.B. Campbell Hydroelectric Station 288 MW
- 13. Coteau Creek Hydroelectric Station 186 MW
- NATURAL GAS
- 3. Meadow Lake Power Station 44 MW
- 7. Yellowhead Power Station 138 MW
- 9. Ermine Power Station 92 MW
- 10. Landis Power Station 79 MW
- 12. Queen Elizabeth Power Station 430 MW
- 15. Success Power Station 30 MW
- MIND
- 16. Cypress Wind Power Facility 11 MW
- 18. Centennial Wind Power Facility 150 MW
- COAL
- 20. Poplar River Power Station 582 MW
- 21. Boundary Dam Power Station 828 MW
- 23. Shand Power Station 276 MW
- INDEPENDENT POWER PRODUCERS
- 6 Meridian Cogeneration Station 210 MW
- 8. NRGreen Kerrobert Heat Recovery Project 5 MW
- 11. Cory Cogeneration Station 228 MW
- 14. NRGreen Loreburn Heat Recovery Project - 5 MW
- 17 SunBridge Wind Power Project 11 MW
- 19. NRGreen Estlin Heat Recovery Project - 5 MW
- Heat Recovery Project 5 MW 22. NRGreen Alameda
- Heat Recovery Project 5 MW
- 24. Red Lily Wind Project 27 MW

#### TRANSMISSION

--- 230 kV

--- 138 kV

----- 138 kV line operating at 72 kV

O Switching station

**♦** Interconnection



We value your feedback and involvement.

To comment or learn more about our programs and initiatives,
please visit us online at saskpower.com or contact:

SaskPower Environmental Programs
6 SE - 2025 Victoria Avenue
Regina, Saskatchewan
S4P 0S1 Canada
1-800-667-4749 in Saskatchewan
or 306-566-2853
environmental\_programs@saskpower.com

